Automotive Body Technology
APRC 2005-2006

Section 1 of 2

APRC Questions for Automotive Body PRP

1. Who are the members of the Auto body PRP?

   Vic Fowler, Chair, Jim Bigelow, Tom Brownell, Michael Ropele, Kathy Myers, Greg Key

2. Please supply a check sheet. (See attached)

3. Discuss the relationship of the program to the mission of the university.

   Over the last ten years the Auto body program graduates on average ten students. With half of the ten going on to the BS degree and only 5 going into the work place I don't think 5 students in either industry is central to the mission at Ferris or is it satisfying the industries needs.

4. Explain in more detail why the new admissions standards for the University will negatively impact program enrollment.

   Both the admission standards in 2006 and 2008, and the hidden math credit that is not in the program will have an effect on enrollment. If you refer to the Ferris State admission sheet you will see that there are no entrance requirements to enter the Auto body program. When the university standards of 2006 are implemented the Auto body program will lose 30% of their students because they will not be admissible to the university. Thus their program will be lowered by 30%. When the 2008 standards are implemented the Auto body program will lose 50% of their starting students, because they will not be admissible to the university.

5. What other Michigan higher education institutions offer comparable programs?

   There are 28 community colleges and 15 universities for a total of 43 higher education institutions. Of that 43, 7 have some type of autobody course work. The four that issue AAS degrees have very few graduates. Example Mott Community College issued seven degree/year on a five year rolling average.

   4 Associates degrees - Lansing CC, Mott CC, Wayne County CC, Washtenaw CC
   1 Certificates – Alpena CC,
   2 Have some classes – Kirkwood, Northern
   7 Total

   The programs at the community college seem to be adult education with little or no graduates.

6. Discuss the relationship of the Auto body program to the other automotive programs.

The Auto body students can go on to the AHM BS program. In the last nine years 4.3 Auto body students graduated per year with a BS from AHM.

7. How is the program currently recruiting? What are its future recruitment plans?

   We brought in 100-300 students, 3 days a week during the fall semester of 2004. We also attend career days at High Schools like Career Line Tech in Holland. The Automotive Department has the largest most aggressive recruiting program of any department. The Auto body program benefits from a large department faculty group that recruit for all the department programs.

8. What kind of professional development experiences have program faculty attended?

   According to the VITA not any in the last five years.

9. Where do body shops in this part of Michigan get their employees?

   With no graduates from the four AAS community colleges, obviously the educational institutions are not supplying the work force. On the job training.

10. More generally, how are body shop workers educated for their jobs?

    On the job training.

11. What happens to the program's students who attrit?

    Almost all students leave. Some Automotive Service students attrit into the Auto body program. Auto body can't go into Automotive Service or any other program with a low ACT score. Automotive Service students also have to have a 19 ACT in math where as Auto body has zero ACT requirements in math. If you look at the math ACT of the AAS students 9 to 11 of the Auto body students out of 14 have lower than a 19 ACT in math. Thus they are not admissible.

12. What steps has the program taken to increase retention?
    It's not a retention problem. It's an entrance requirement problem which causes the retention problem. In 2008 the new entrance requirement will allow only 12 students to inter the auto body program. The program has only graduated 10 students per year for the last ten years. There seems to be 100% correlation between the 2008 standards and the number of graduates for the last ten years.

13. What steps has the program taken to follow the advice of the advisory board?

    According to the Advisory Board comments to me as well as the survey the Auto body faculty have chosen not to listen to the advisory board input.

APRC Questions for Automotive Body PRP

14. Please supply a vita of the program faculty.

    The three program faculty over the last 30 years had 80 years teaching experience with one promotion during that time span. No Auto body teacher has earned a MS degree. After a retiree last year the program has one full time faculty and two adjunct faculty.

15. Please supply some sample syllabi. (see attached)

3. THE AUTO BODY REPAIR PROGRAM PROVIDES STUDENTS WITH HANDS-ON CAREER ORIENTED TECHNICAL EXPERIENCES. STUDENTS DEVELOP JOB ENTRY LEVEL SKILLS BY WORKING ON "LIVE VEHICLES" IN THE AUTO BODY LAB.

8. FACULTY HAVE ATTENDED TRAINING IN ALL AREAS OF COLLISION REPAIR INCLUDING REFINISHING, FRAME REPAIR AND DAMAGE ANALYSIS, COMPUTERIZED ESTIMATING AND I-CAR TRAINING CLASSES. MOST RECENTLY VIC FOWLER ATTENDED THE 3M COMPANY ADVANCED VOTECH INSTRUCTOR TRAINING IN ST. PAUL MINNESOTA

9. AUTO BODY SHOPS IN THIS AREA GET SOME OF THEIR EMPLOYEES FROM CAREER CENTERS SUCH AS KENT CAREER CENTER IN GRAND RAPIDS, AND TRAVERSE BAY AREA CAREER TECH CENTER IN TRAVERSE CITY. IN SOME CASES SHOP OWNERS WILL HIRE AND TRAIN INDIVIDUALS IN THEIR SHOPS.

10. MOST TECHNICIANS RECEIVE TRAINING BY ATTENDING I-CAR CLASSES OR PARTICIPATE IN TRAINING OFFERED BY INDUSTRY SUCH AS P.P.G AND DUPONT. TYPICALLY THESE CLASSES ARE PAID FOR BY EMPLOYERS.

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

AUTOMOTIVE BODY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT_____ STUDENT I.D._____

Total semester hours required for graduation: 63

NOTE: Meeting requirements for graduation indicated on this sheet is the responsibility of the student. The student is also responsible for meeting all FSU General Education requirements as outlined in the university catalog. Your advisor is available to assist you.

			CREDIT	COMMENTS/GRADE
FIRST YEAR - FALL SEMESTER				
ABOD	111	Auto Body & Paint Theory	4	
ABOD	112	Applied Auto Body & Paint	6	
WELD	116	Auto Body Welding	3	
PHYS	130	Concepts in Physics (C- in Math 110)	4	
FIRST YEAR - WINTER SEMESTER				
ABOD	113	Refinishing & Panel Repair Theory (ABOD 111,112)	4	
ABOD	114	Applied Refinishing & Panel Repair (ABOD 111,112)	6	
ENGL	150	English 1	3	
_____	____	Social Awareness Elective*	3	
SECOND YEAR - FALL SEMESTER				
ABOD	211	Frame & Unibody Repair Theory (ABOD 113,114)	4	
ABOD	212	Applied Frame & Unibody Repair (AB)D 113,114)	6	
ENGL	250	English 2 (ENGL 150)	3	
_____	____	Cultural Enrichment Elective	3	
SECOND YEAR - WINTER SEMESTER				
ABOD	213	Repair Processes Theory (ABOD 211,212)	4	
ABOD	214	Applied Repair Processes (ABOD 211,212)	6	
ABOD	215	Body Electrical & Air Conditioning	4	

MATH 110 proficiency required for graduation (can be demonstrated by exam or MATH 110 course work).

Computer literacy equivalent to that provided by ISYS 105 required for entrance to the AHEM program (can be demonstrated by exam or by course work).

SOCIAL AWARENESS ELECTIVE SHOULD BE CHOSEN FROM ONE OF THE FOLLOWING:

SOCY	121	Introductory Sociology
ANTH	122	Introductory Cultural Anthropology
PSYC	150	Introduction to Psychology

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(OVER)

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
AUTOMOTIVE BODY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER

TECHNICAL			CREDIT HOURS
ABOD	111	Auto Body & Paint Theory	4
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ABOD	212	Applied Frame & Unibody Repair	6
ABOD	213	Repair Processes Theory	4
ABOD	214	Applied Repair Processes	6
ABOD	215	Body Electrical & Air Conditioning	4
Technical Related			
WELD	116	Auto Body Welding	3

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
ENGL	150	English 1	3
ENGL	250	English 2	3
Scientific Understanding			
PHYS	130	Concepts in Physics	4
Quantitative Skills			
MATH	110	Fund. of Algebra (Proficiency)	4
Cultural Enrichment			
Elective			3
Social Awareness			
Elective			3

A.A.S. Degree Minimum General Educational Requirements in Semester Hours:

Cultural Enrichment Credits - 3
Communication Credits - 6
Social Awareness Credits - 3
Scientific Understanding Credits - 3/4

5/01
pm/cksh04f/abod

(OVER)

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
AUTOMOTIVE BODY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER

TECHNICAL			CREDIT HOURS
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FERRIS STATE UNIVERSITY
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FERRIS STATE UNIVERSITY

2005-06 ADMISSION CRITERIA – COLLEGE OF TECHNOLOGY

Admission is open to high school graduates who demonstrate the academic preparedness, maturity, and seriousness of purpose with backgrounds appropriate to their chosen program of studies. A 3.0 high school GPA and an ACT composite of 20 are the average levels for beginning students; most programs have additional, specific admissions criteria.

The admissions criteria for Fall 2005/Winter 2006 FTIACs (First Admits) are as follows:

(1) Meet the University standard of a minimum ACT composite score of 16 and a minimum high school GPA of 2.00; OR a high school GPA of 2.35 with an ACT composite of 15;

AND (2) or (3), below

(2) Meet department admissions standards as outlined on this criteria sheet to be admitted to a specific degree program;

(3) Be admitted as a program pre-technical student until the program specific requirements of (2) above are met, at which time admission to the degree program will be granted.

ACT composite	HS GPA	Meets program requirements	Remarks
16 or higher	2.00 or higher	Yes	Admit to program
16 or higher	2.00 or higher	No	Admit as pre-tech
15	2.35 or higher	Yes	Admit to program
15	2.35 or higher	No	Admit as pre-tech

Internal and external university transfer applicants for AAS programs who meet math level requirements, but have *less* than a 2.0 college GPA, are to be referred to the College Dean's Offi for review.

AAS DEGREE PROGRAMS	Entry Point	Quota	REQUIREMENTS	DEPT. CHAIR	PHONE (231) 591-
Architectural Technology	F	64	17 reading ACT; 19 math ACT; Math 116 placement	Diane Nagelkirk	3100
Automotive Body	F	25		Greg Key	2655
Automotive Service	FW	90/30	19 math ACT; Math 116 placement	Greg Key	2655
1) Building Construction Technology	FW	72/30	19 math ACT; Math 116 placement	Dave Hanna	3773
1) Civil Engineering Technology	FW	72/30	19 math ACT; Math 116 placement	Dave Hanna	3773
CAD Drafting/Tool Design	F	50	15 math ACT; Math 110 placement	Randy Stein	2755
Electronics (Industrial) Technology	F	42	19 math ACT; Math 116 placement	Ron McKean	2388
Heavy Equip. Technology	FW	30/m	19 math ACT; Math 116 placement	Keith Cripe	2810
HVACR Technology	FW	32/32	19 math ACT; Math 116 placement	Mike Feutz	2608
Manufacturing Tooling	F	36	15 math ACT; Math 110 placement	Gary Ovans	2511
Mechanical Engineering Tech.	F	50	19 math ACT, Math 116 placement	Randy Stein	2755
Plastics Technology	F	60	19 math ACT; Math 116 placement	Bob Speirs	2640
Printing & Digital Graphic Imaging	FW	60/35		Pat Klarecki	2845
Rubber Technology	F	24	19 math ACT; Math 116 placement	Bob Speirs	2640
Surveying Technology	FW	20/m	19 math ACT; Math 115 placement	Sayed Hashimi	2845
Welding Technology	F	40	15 math ACT; Math 110 placement	Jeff Carney	2511

1) Combined Quota (see reverse side)

OVER →

2005-06 ADMISSION CRITERIA – COLLEGE OF TECHNOLOGY
ALL TRANSFER APPLICANTS FOR B.S. PROGRAMS SHOULD BE REFERRED TO THE COLLEGE

For 2 + 2 options we encourage applications (internal or external) to be submitted by Jan. 15

BS DEGREE PROGRAMS	Entry Point	Quota	COLLEGE GPA	REQUIREMENTS	DEPT. CHAIR	PHON (231) 591-
Automotive Engineering Tech.	FW	35/m	2.5	AAS in AUSV w/ 2.5 GPA, 2.7 in major; Math 126/130 placement	Greg Key	2655
Auto & Heavy Equip Mgmt	FW	50/25	2.0	AAS in AUSV, ABOD, HET; Math 110 competency	Greg Key	2655
Comp. Net. & Systems (0+4)	F	42	2.0	19 math ACT; Math 116 placement	Ron McKean	2388
Construction Mgmt. (2+2)	FW	30/m	2.3	AAS in ARCH, BCTM, CETM; Math 126/130 competency	Dave Hanna	3773
1) Construction Mgmt. (0+4)	FW	72/30	2.3	19 math ACT; Math 115/116 placement	Dave Hanna	3773
Electrical/Electronics Engineering Tech.	F	36	2.0	AAS in Electronics; Math 126/130 competency	Ron McKean	2388
Facilities Management	F	25	2.0	AAS in ARCH; Math 115/116 competency	Diane Nagelkirk	3100
Heavy Equip. Svc. Engr. Tech	F	15	2.0	AAS in HEQT; Math 116 competency	Keith Cripe	2810
HVACR Engineering Tech	F	32	2.5	AAS in HVAC w/ a 2.5 GPA; Math 115 competency	Mike Feutz	2608
Manufacturing Engr. Tech.	F	25	2.5	AAS in MET, MFGT, RUBT, PLTT, CDTD, WELT w/ 2.5 GPA in math, 2.75 in major; Math 126/130 placement	Gary Ovans	2511
Mechanical Engr. Tech.	F	30	2.5	AAS in MET w/ 2.5 GPA in math, 2.75 in major; Math 216/220 competency	Randy Stein	2755
New Media Printing & Publishing	FW	20/m	2.5	AAS in Printing, VISC, CIS w/ 2.5 GPA; Math 110 competency	Pat Klarecki	2845
Plastics Engineering Tech	FW	36/m	2.5	AAS in PLTT w/ 2.5 GPA, 2.7 in major, 2.5 in math; Math 126/130 competency	Bob Speirs	2640
Printing Management	FW	30/m	2.5	AAS in Printing w/ 2.5 GPA; Math 115 competency	Pat Klarecki	2845
Product Design Engineering Tech	F	30	2.5	AAS in MET, CDTD, PLTT, RUBT, w/ 2.5 GPA in math, 2.75 in major; Math 126/130 placement	Randy Stein	2755
Quality Engineering Tech.	F	30	2.0	AAS in Manufacturing-area curriculum, w/ 2.5 GPA in math, 2.75 in major; Math 126/130 placement (program offered at ATC-GR only)	Gary Ovans	2511
Rubber Engr. Tech.	F	24/m	2.5	AAS in RUBT w/ 2.5 GPA, 2.7 in major, 2.5 in math; Math 126/130 competency	Bob Speirs	2640
Surveying Engr (0+4)	F	18/m	2.0	26 Math ACT, Math 220 placement	Sayed Hashimi	2845
Welding Engineering Tech	F	30	3.0	AAS in WELT w/ 3.0 GPA; Math 126 placement	Jeff Carney	2511

1) Combined Quota

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FERRIS STATE UNIVERSITY
2006-07 ADMISSION CRITERIA – COLLEGE OF TECHNOLOGY

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OVER ⟶

- **CNS, CONM (CMBT, CMCT), SURE ARE THE ONLY B.S. PROGRAMS FRESHMAN STUDENTS MAY ENTER DIRECTLY.**
- **ALL ASSOCIATE'S DEGREE LEVEL TRANSFER STUDENTS APPLYING TO A B.S. PROGRAM MUST BE REFERRED TO THE COLLEGE OR DEPARTMENT OFFICE, AS APPROPRIATE.**
- **STUDENTS APPEARING TO BE ELIGIBLE FOR ADVANCED STANDING SHOULD BE REFERRED TO COT.**

2006-07 ADMISSION CRITERIA – COLLEGE OF TECHNOLOGY

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FERRIS STATE UNIVERSITY

COLLEGE OF TECHNOLOGY

PROGRAM REVIEW

OF THE

A.A.S. in AUTOMOTIVE BODY TECHNOLOGY

2005

GREGORY KEY, DEPARTMENT CHAIR

INDEX

SECTION 1

AUTOMOTIVE BODY PROGRAM

The mission of the Automotive Body technology program is to prepare students for the employment in the Auto Body repair field, and to supply an avenue for further education and to be participative members of society.

Labor Market Analysis

Summary

Although the obvious career path for graduates of the Automotive Body program appears to be as an auto body repairer or painter as highlighted by this chapter and supported by MOIS and other date, graduates, in fact, have a number of other options besides working in or eventually owning an automotive body repair facility, sound and eventually financially lucrative as this employment may be. Another option, which Ferris Auto Body program graduates have pursued is as a claims adjuster for insurance companies. Here, practical experience in the auto body curriculum helps assure accurate processing of auto damage insurance claims. Another option has been as a paint systems representative, using the auto body painting skills acquired in the program to help customers troubleshoot problems and knowledgeable represent a manufacturer's product.

These options are more readily available for graduates who continue their Ferris education through a Bachelor's program like Automotive Management, which opens still other doors for students with auto body backgrounds. One especially desirable career option is with an automotive manufacturer working with engineers and designers on determine proper collision repair procedures on new model cars, such as what Saturn has done.

Still other opportunities lie in the field of classic car restoration, a multi-billion dollar industry, where graduates use the same cadre of skills as in an auto body repair facility, but with more creativity and less tedium with routine tasks.

The outcome is that the Automotive Body program leads to a variety of careers, which are sufficiently diverse to match individual students' interests and ambition.

#154 - AUTO BODY REPAIRER

Auto Body Repairers fix damaged bodies and body parts of automotive vehicles such as cars, vans, trucks, buses, campers, and trailers.

NATURE OF THE OCCUPATION

Auto Body Repairers may:

Estimate the cost of a repair job

Pound out small dents with a hammer, pick hammer, or punch

Straighten bent or twisted frames

Weld metal parts

Remove parts to gain access to vehicle body and fenders

Remove, repair, or replace fenders, doors, or other body parts

Fill damaged areas with solder or plastic body fillers

File, grind, sand, and smooth filled or repaired surfaces

Refinish with a primer coat, sand and paint with a finish coat

Aim headlights and align wheels

Tools, equipment, and materials used may include:

* Wrenches & hammers	* Cutting torches
* Blueprints	* Hydraulic jacks
* Pulling devices	* Punches
* Pick hammers	* Compressors
* Dolly blocks	* Pneumatic tools
* Grinders and buffers	* Welding equipment
* Plastic filler	* Paint spray guns
* Masks and safety glasses	

OCCUPATIONAL SPECIALTIES

Auto Body Repairers may specialize in these areas:

807.381-010 AUTOMOBILE BODY REPAIRERS fix damaged fenders and bodies on cars, trucks, buses, campers, and trailers.

807.381-030 FIBERGLASS AUTO-BODY REPAIRERS have expertise in making a wide variety of repairs on vehicle bodies made of certain materials, as in this case, fiberglass.

845.381-014 AUTOMOTIVE PAINTERS repaint auto surfaces with a color matched paint after the damaged area has been repaired. They remove paint, treat surfaces, mask and cover areas, position stencils for designs or lettering, mix paints, and use spray guns.

In addition to learning about these specialties, you may also find it helpful to explore the following MOIScripts:

013 MANUFACTURING PAINTER	128 SHEET METAL WORKER
155 AUTO MECHANIC	245 AUTO PARTS SERVICE CLERK
247 AUTO SERVICE ADVISOR	301 TRUCK & BUS MECHANIC

WORKING CONDITIONS AND REQUIREMENTS

Auto Body Repairers usually work indoors in well ventilated but often dusty shops. Repairers are exposed to a great deal of noise from hammers and power tools. There is usually an odor from painting and fumes from soldering, painting, and welding.

Auto Body Repairers often work in cramped, physically uncomfortable positions in order to reach the damaged parts of vehicle bodies. They may receive cuts from broken glass and sharp metal edges, burns from torches and hot metal, and injuries from power tools. Auto body repair work also involves getting greasy and dirty.

In Michigan, the average workweek is 40-48 hours. Usually hours of work are from 8 A.M. to 5 P.M. with frequent overtime. This occupation is typically stable and days without available work are rare. However, hours may be cut back when business is slow.

Auto Body Repairers must purchase hand tools, but employers usually supply power tools. Hand tools can range from $200 to $2,500 for a complete set.

Some Auto Body Repairers belong to unions and pay monthly union dues. The International Association of Machinists and Aerospace Workers is a union that represents Auto Body Repairers in Michigan.

You Should Prefer:

- Fixing and repairing objects

- Being indoors all day

You Should Be Able To:

- See details in objects or drawings
- Recognize slight differences in shapes or shadings
- Look at flat drawings & visualize how they would look as solid objects
- Perform a variety of duties which may change often
- Rate information using standards that can be checked
- Work with a minimum amount of supervision
- Do math problems well enough to figure cost-time estimates
- Work within precise limits or standards of accuracy

Math Problem You Should Be Able to Solve:

What gauge wire should be used in an extension cable 50 ft long, when the current is 5 amperes?

Reading Example You Should Be Able to Read and Comprehend:

To prevent internal stresses in metal frame straightening, heat should be limited to parts that are not severely bent. If heat is needed to straighten a frame member, the temperature should be kept below 1200øF. Excessive heat may weaken the metal and cause permanent damage. This is particularly true in the case of heat treated members.

Writing Example You Should Be Able to Produce:

Prepare a written estimate for a body repair job at the request of a potential customer.

Thinking Skill You Should Be Able to Demonstrate:

Should be able to demonstrate analytical skills and be detail oriented in assessing and repairing automobile bodies.

EDUCATION AND PREPARATION OPPORTUNITIES

NOTE: On-The-Job Training provided by the employer; a High School Diploma with specific Vocational Education Classes or a Certificate (program of up to one year of study beyond high school); an Associate Degree (two years of study beyond high school) or an Apprenticeship (usually three to four years of training beyond high school) may qualify a person for this occupation.

The following education and preparation opportunities are helpful in preparing for occupations in the MOIScript:

****SCHOOL SUBJECTS****

0300 AUTOMOTIVE , 0600 BUSINESS , 0700 CAREERS , 0900 COMMUNICATIONS , 2200 MATH , 2300 METALS , 3200 TECHNICAL DRAWING , 3300 TECHNOLOGY

****VOCATIONAL EDUCATION PROGRAMS****

042 **AUTOMOTIVE BODY REPAIR**

Approved vocational education programs in Automotive Body Repair prepare students to repair or replace fenders and other body parts of automobiles. Instruction includes body preparation for painting and finishing.

Courses in other trade and industrial programs may be required for completion of this program.

058 **TRANSPORTATION SERVICES & TECHNOLOGY**

Approved vocational education programs in Transportation Services & Technology provide instruction in both foundation skills and occupationally specific skills. Upon completion of a core curriculum, students select one of 5 job titles to study: Automotive technician trainee, auto body technician trainee, diesel technician trainee, small engine technician trainee, or aircraft technician trainee.

Courses in other trade & industrial programs may be required for completion of this program.

High school students should consult their guidance office for more information about the specific requirements of this program at their school or area vocational education center.

Students should obtain the local Career Preparation Consumer Report for information on what happens to students who successfully complete a program. This information is available at each high school or career/technical center.

****POSTSECONDARY PROGRAMS****

141 **AUTO BODY REPAIR**

Programs in Auto Body Repair provide opportunities to gain the knowledge and skills necessary for employment repairing damaged bodies and body parts of automotive vehicles such as cars, trucks, buses, and trailers. Similar opportunities are identified in the MOIS Automotive Technology Postsecondary Program #16.

Courses vary from school to school but may include:

General Math	Metallurgy
Major Collision Repair	Auto Body Frame Repair
Paints & Painting Technology	Metal Finishing
Welding	

Search for a College and/or Instructional Program

****APPRENTICESHIP OPPORTUNITIES****

004 **AUTO BODY REPAIRER**

Some people enter occupations within this MOIScript through an apprenticeship program. An apprenticeship program is a formal program that takes 3 - 5 years to complete with most of the time spent on the job.

WHAT IS LEARNED ON THE JOB

Estimate Costs of Repairs	Repair Small Dents
Replace Sheet Metal	Weld
Mix Paint	Repair Equipment
Mask & Paint a Car	Apply Body Putty
Finish & Polish a Car	Work with Fiberglass
Rebuild Auto Bodies	

WHAT IS LEARNED IN THE CLASSROOM

Welding & Brazing	Soldering & Leading
Cleaning Equipment	Masking & Painting
Finishing & Polishing	Estimating Repair Costs
Body Alignment	Rubbing Down Coats
Rough Sanding & Preparing	Removing & Replacing Sheet
Surfaces	Metal
Matching Colors	Removing & Installing New
Safety Practices	Panels & Parts

****MILITARY TRAINING PROGRAMS****

Please check the Military web site at http://www.myfuture.com

AUTOMOTIVE AND HEAVY EQUIPMENT MECHANICS

Keeping automotive and heavy equipment in good working condition is vital to the success of military missions. Automotive and heavy equipment mechanics maintain and repair vehicles such as jeeps, cars, trucks, tanks, self-propelled missile launchers, and other combat vehicles. They also repair bulldozers, power shovels, and other construction equipment.

What They Do

Automotive and heavy equipment mechanics in the military perform some or all of the following duties:

- Troubleshoot problems in vehicle engines, electrical systems, steering, brakes, and suspensions
- Tune and repair engines
- Replace or repair damaged body parts, hydraulic arms or shovels, and grader blades
- Establish and follow schedules for maintaining vehicles

Training Provided

Job training consists of 8 to 29 weeks of classroom instruction. Training length varies depending on specialty. Course content typically includes:

- Engine repair and tune-up
- Troubleshooting mechanical and electrical problems
- Repairing and replacing body panels, fenders, and radiators

Further training occurs on the job and through advanced courses. The Army, Navy, and Marine Corps offer certified apprenticeship programs for some specialties in this occupation.

Special Requirements

Although some women are automotive and heavy equipment mechanics, some specialties in this occupation are open only to men.

Work Environment

Automotive and heavy equipment mechanics usually work inside large repair garages. They work outdoors when making emergency repairs in the field.

Physical Demands

Automotive and heavy equipment mechanics may have to lift heavy parts and tools. They sometimes have to work in cramped positions. Normal color vision is required for some specialties to work with color-coded wiring and to read diagrams.

Helpful Attributes

Helpful school subjects include auto mechanics and industrial arts. Helpful attributes include:

- Preference for physical work
- Interest in troubleshooting and repairing mechanical problems
- Interest in automotive engines and how they work

Civilian Counterparts

Civilian automotive and heavy equipment mechanics may work for service stations, auto and construction equipment dealers, farm equipment companies, and state highway agencies. They perform duties similar to military automotive and heavy equipment mechanics. They may also be called garage mechanics, carburetor mechanics, transmission mechanics, radiator mechanics, construction equipment mechanics, or endless track vehicle mechanics.

Opportunities

The services have about 54,775 automotive and heavy equipment mechanics. On average, they need about 6,450 new mechanics each year. After job training, mechanics begin repairing equipment under the direction of a supervisor. In time, they have the opportunity to supervise other workers and possibly manage repair shops, motor pools, or maintenance units.

E-Learning Courses and Programs

OPPORTUNITIES FOR EXPERIENCE AND METHODS OF ENTRY

Part-time jobs may be available as an assistant or helper in auto body repair shops. Secondary vocational education programs and postsecondary programs in auto body repair may offer co-op, internship, or other related work experience opportunities. Related experience can also be obtained in the military services or through a formal apprenticeship program.

School-to-Work opportunities include:

informal apprenticeships

mentorships

job shadowing experiences

touring a local Auto Body Repairer employer

internships

volunteer work with a Auto Body Repairers employer

community service work with an agency

Many Auto Body Repairers enter this occupation through apprenticeship programs. Others receive three or four years of on-the-job training as helpers. Application may be made directly to auto body repair shops. Newspaper want ads and school placement offices also may be helpful. You should access and search the Internet's on-line employment services sites such as:

Michigan Talent Bank
America's Job Bank
Classifieds Employment
Yahoo! Careers
MONSTER.COM
Michigan Works!

You should enter an electronic resume on these on-line services.

EARNINGS AND ADVANCEMENT

Earnings depend on the size, type, and location of the employer and on the individual skill of the worker. Auto body helpers and trainees generally receive a straight hourly wage. Experienced Auto Body Repairers may be paid an hourly wage, commissions on the work they do, or a combination of both.

Nationally, the median weekly wage earned by Auto Body Repairers in 1998 was $510, which is about $12.75 per hour, based on a 40-hour work week.

In the East North Central region, which includes Michigan, dealerships paid the average Auto Body Repairer $37,945 per year or $18.24 per hour in late 1998. Highly experienced technicians could earn more. Nonunion Repairers usually earned less per hour.

Most Auto Body Repairers working for auto manufacturing companies had an hourly wage (1999) ranging from $19.95 to $23.48. These Auto Body Repairers and painters earned an additional amount per hour for a cost-of-living allowance.

The hourly wage in 1999 of Auto Body Repairers employed by the State of Michigan ranged from $12.94 to $19.49.

The 1996 graduates of high school vocational education programs who are working in jobs related to Auto Body Repair earned a beginning average of $9.50 per hour in 1998.

Fringe benefits vary with the employer. In small auto repair and collision shops, benefits may not be available. Individuals working in larger repair shops, fleet garages, and auto dealerships may receive life, accident, disability, dental, and hospitalization insurance; paid vacations and holidays; paid sick leave; pension plans; and uniforms.

In larger shops, Auto Body Repairers may be promoted to estimator or body shop supervisor. In a small shop, there is usually little chance for promotion or advancement. Some own their own shops.

EMPLOYMENT AND OUTLOOK

There were approximately 239,100 Auto Body Repairers and Automotive Painters employed nationally in 1996. Employment of Auto Body Repairers and Painters is expected to grow about as fast as the average for all occupations through the year 2006. The industry distribution for Auto Body Repairers and Automotive Painters looked like this:

SIC Code	Industry	% Employed
80750	Auto Repair, Services, and Parking	63.2
62551	Motor Vehicle Dealers	26.9
61501	Motor Vehicles, Parts, and Supplies	2.3
51421	Local and Long Distance Trucking and Terminals	1.8
41371	Motor Vehicles and Equipment	1.6
90000	Government	1.3
- -	Others	2.9

Employment is expected to grow as a result of the rising number of motor vehicles damaged in traffic. Accidents are expected to increase as the number of motor vehicles grows, even though improved highways, driver training courses, and safety features on new vehicles may slow the rate of increase.

There are approximately 9,525 Auto Body Repairers and Automobile Painters employed in Michigan. More than a third worked in auto repair shops. Most Auto Body Repairers worked in or near metropolitan areas and large cities. Others worked in auto manufacturing, dealerships and government agencies.

Employment of Auto Body Repairers in Michigan is expected to increase about as fast as the average for all occupations through the year 2005, while the employment of Automotive Painters is expected to decline. An average of 380 annual openings is expected, with 130 due to growth and 250 due to replacement of those who retire, die, or leave the labor force for other reasons. Additional openings will occur as workers transfer to other jobs or occupations.

As the driving age population increases and the number of 2 car families increases, the number of vehicles on the road and consequently the number of accidents, will increase. Because new cars are also costly, people are keeping cars longer and having them repaired. These trends will spur the demand for Auto Body Repairers.

Most people who become Auto Body Repairers can expect steady work since the auto repair business is not usually affected by changes in the economy.

The recent surge in new car sales in Michigan may account for the recent slower growth rate in this occupation.

MICHIGAN'S EMPLOYMENT OUTLOOK TO 2005

EMPLOYMENT AND OUTLOOK REGIONS	NUMBER EMPLOYED	PERCENT GROWTH	PROJECTED YEARLY JOB OPENINGS
State Total	9,525	14.6%	380

SOURCES OF ADDITIONAL INFORMATION

Printed Occupational information is available upon written request from the sources below.

U.S. Department of Labor Bureau of Apprenticeship and Training State Director's Office 801 South Waverly, Suite 304 Lansing, MI 48917 1-517-377-1746	Michigan Automobile Dealers Association 1500 Kendale Boulevard P.O. Box 2525 East Lansing, MI 48826 1-517-351-7800
Automotive Service Association P.O. Box 929 Bedford, TX 76095-0929 1-817-283-6205 http://www.asashop.org	Michigan Virtual Automotive College 3025 Boardwalk, Suite 150 Ann Arbor, MI 48108 http://www.mvac.org
Detroit Auto Dealers Association 1800 W. Big Beaver Rd. Troy, MI 48084 1-810-643-0250	Michigan Works!
School and College Placement Offices	Telephone Directory Yellow Pages Under Automobile Body Repairing and Painting
Local Military Recruiters	

SUMMARY PROFILE

The occupation of Auto Body Repairer can be summarized by the following:

Growth Outlook:	Slower than average
Salary Potential:	Below average potential growth
GOE Cluster:	Mechanical Interest Group (#05)
Work Values:	Work with hands, work with machines or equipment, auto mechanics
SDS Code:	Realistic (repairs damaged vehicles)
Relationship to Data:	Compiling (keeps customer records)
Relationship to People:	Instructional (repairs damaged vehicles according to customer request)
Relationship to Things:	Precision-Working (uses mechanical tools to repair damaged vehicles)

MICHIGAN DEPARTMENT OF CIVIL SERVICE
JOB SPECIFICATION

AUTOMOTIVE BODY REPAIRER

JOB DESCRIPTION

Employees in this job repair and refinish damaged bodies and body parts of state owned or leased motorized vehicles, such as automobiles, buses, light trucks, and vans according to repair manuals, using hand tools and power tools.

There are three classifications in this job.

Position Code Title – Automotive Body Repairer-E

Automotive Body Repairer 8
This is the intermediate level. The employee works in a developing capacity with increased responsibility for performing a range of automotive body repair and refinish assignments under general observation of a journey or supervisory level employee.

Automotive Body Repairer E9
This is the journey level. The employee performs a full range of automotive repair or refinishing assignments using independent judgment to make decisions requiring the application of procedures and practices to specific work situations.

Position Code Title – Automotive Body Repairer-A

Automotive Body Repairer 10
This is the advanced level. The employee functions as a crew leader, overseeing the work of lower level automotive body repairers or prisoner crews, and performs journey level assignments.

NOTE: Employees generally progress through this series to the experienced-level based on satisfactory performance and possession of the required experience.

JOB DUTIES

NOTE: The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

Examines damaged vehicles and prepares cost estimates on damages and repairs.

Requisitions supplies and parts; maintains records related to the work.

Replaces, repairs, and bumps out damaged bodies and parts of automotive vehicles.

Aligns bodies, doors, and frames.

Fills dents with body plastic.

Prepares and paints auto bodies.

Fits and installs glass in windshields, doors, and windows.

Repairs and/or installs body upholstery accessories and equipment.

Checks for and repairs water and dust leaks.

Welds and brazes auto bodies.

May assist in training lower level workers in auto body repair techniques.

Performs related work appropriate to the classification as assigned.

Additional Job Duties

Automotive Body Repairer 10 (Crew Leader)
Provides instruction and training in the proper methods and processes necessary to perform the work.

Lays out, assigns, and inspects the work of skilled body repairers; performs complex body repair.

Prepares cost and material estimates.

Keeps records and prepares reports of work and time involved.

Makes certain that equipment is properly serviced; keeps records; and makes reports on the condition of tools, equipment and supplies.

Requisitions tools, equipment, and repair materials used in the work.

Works with insurance claims adjusters regarding accidents.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Developing knowledge is necessary at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of the standard practices, processes, materials, tools, and equipment used in repairing and refinishing automotive bodies.

Knowledge of the occupational hazards and safety precautions of the trade.

Knowledge of the overall construction of motor vehicles.

Ability to use necessary hand tools and shop machines.

Ability to use and maintain paint spraying equipment.

Ability to use welding equipment.

Ability to fit and install glass.

Ability to communicate effectively.

Additional Knowledge, Skills, and Abilities

Automotive Body Repairer 12 (Crew Leader)
Ability to provide training and explain instructions and guidelines to others effectively.

Ability to organize and coordinate the work of the unit.

Ability to determine priorities and make work assignments.

Working Conditions

Some jobs require an employee to work outdoors as well as in an office or a laboratory.

Some jobs require an employee to work in an environment that involves exposure to unpleasant and noxious fumes and odors.

Some jobs require an employee to work where there is a significant chance of injury.

Physical Requirements

The job duties require an employee to move heavy objects.

The job duties require an employee to bend or reach for extended periods.

The job duties require an employee to bend or stoop in confined spaces.

Education

Educational level typically acquire through completion of high school.

Experience

Automotive Body Repairer 8
Two years of experience assisting skilled trades' people in the repair and refinishing of the bodies of motorized vehicles.

Automotive Body Repairer E9
Four years of experience in the automotive body repair trade including two years of experience equivalent to an intermediate-level automotive body repairer in state service.

Automotive Body Repairer 10
Five years of experience in the automotive body repair trade including one year equivalent to an experienced-level automotive body repairer in state service.

Alternate Education and Experience

Automotive Body Repairer 8
Completion of a recognized vocational training program in automotive body repair may be substituted for the experience requirement.

Special Requirements, Licenses, and Certifications

None.

NOTE: Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code	Job Code Description
AUTBODRPR	Automotive Body Repairer

Position Title	Position Code	Pay Schedule
Automotive Body Repairer-E	AUTORPRE	A31-009
Automotive Body Repairer-A	AUTORPRA	A31-012

Painting and Coating Workers, Except Construction and Maintenance

(0*NET 51-9121.01, 51-9121.02, 51-9122.00, 51-9123.00)

Significant Points

- Nearly 70 percent of jobs are in manufacturing establishments.
- Most workers acquire their skills on the job; for most operators, training lasts from a few days to several months, but becoming skilled in all aspects of automotive painting usually requires 1 to 2 years.
- Employment growth for highly skilled transportation painters and automotive refinishers is projected to be faster than for lesser skilled painting, coating, and spraying machine operators, whose jobs are subject to automation.

Nature of the Work

Millions of items ranging from cars to candy are covered by paint, plastic, varnish, chocolate, or some other type of coating solution. Often, the protection provided by the paint or coating is essential to the product, as with the coating of insulating material covering wires and other electrical and electronic components. Many paints and coatings have dual purposes; for example, the paint finish on an automobile heightens the visual appearance of the vehicle while providing protection from corrosion.

Painting, coating, and spraying machine setters, operators, and tenders control the machinery that applies these paints and coatings to a wide range of manufactured products. Perhaps the most straightforward technique is simply dipping an item in a large vat of paint or other coating. This is the technique used by *dippers*, who immerse racks or baskets of articles in vats of paint, liquid plastic, or other solutions by means of a power hoist. Similarly, *tumbling barrel painters* deposit articles made of porous materials in a barrel of paint, varnish, or other coating, which is then rotated to ensure thorough coverage.

Another familiar technique is spraying products with a solution of paint or some other coating. *Spray machine operators* use spray guns to coat metal, wood, ceramic, fabric, paper, and food products with paint and other coating solutions. Following a formula, operators fill the equipment's tanks with a mixture of paints or chemicals, adding prescribed amounts of solution. They adjust nozzles on the spray guns to obtain the proper dispersion of the spray and hold or position the guns to direct the spray onto the article. Operators also check the flow and viscosity of the paint or solution and visually inspect the quality of the coating. When products are drying, these workers often must regulate the temperature and air circulation in drying ovens. Individuals who paint, coat, or decorate articles such as furniture, glass, pottery, toys, and books are known as *painting, coating, and decorating workers.*

Painting workers use various types of machines to coat a range of products. Frequently, their job title reflects the specialized nature of the machine or the coating being applied. For example, *enrobing machine operators* coat, or "enrobe," confectionery, bakery, and other food products with melted chocolate, cheese, oils, sugar, or other substances. *Paper coating machine operators* spray "size" on rolls of paper to give it its gloss or finish. *Silvering applicators* spray silver, tin, and copper solutions on glass in the manufacture of mirrors.

In response to concerns about air pollution and worker safety, manufacturers increasingly are using new types of paints and coatings on their products, instead of high-solvent paints. Water-based paints and powder coatings are two of the most common. These compounds do not emit as many volatile organic compounds into the air and can be applied to a variety of products. Powder coatings are sprayed much as are liquid paints and then are heated to melt and cure the coating.

The adoption of new types of paints often is accompanied by a conversion to more automated painting equipment that the operator sets and monitors. When using these machines, operators position the automatic spray guns, set the nozzles, and synchronize the action of the guns with the speed of the conveyor carrying articles through the machine and drying ovens. The operator also may add solvents or water to the paint vessel that prepares the paint for application. During operation, these workers tend painting machines, observe gauges on the control panel, and randomly check articles for evidence of any variation from specifications. The operator then uses a spray gun to "touch up" spots where necessary.

Although the majority of these workers are employed in manufacturing, the best known group refinishes old and damaged cars, trucks, and buses in automotive body repair and paint shops. *Transportation equipment* or *automotive painters* are among the most highly skilled manual spray operators, because they perform intricate, detailed work and mix paints to match the original color, a task that is especially difficult if the color has faded.

To prepare a vehicle for painting, painters or their helpers use power sanders and sandpaper to remove the original paint or rust and then fill small dents and scratches with body filler. They also remove or mask parts they do not want to paint, such as chrome trim, headlights, windows, and mirrors. Automotive painters use a spray gun to apply several coats of paint. They apply lacquer, enamel, or water-based primers to vehicles with metal bodies and flexible primers to newer vehicles with plastic body parts. Controlling the spray gun by hand, they apply successive coats until the finish of the repaired sections of the vehicle matches that of the original, undamaged portions. To speed drying between coats, they may place the freshly painted vehicle under heat lamps or in a special infrared oven. After each coat of primer dries, they sand the surface to remove any irregularities and to improve the adhesion of

Spraying machine operators use spray guns to coat a variety of products and surfaces.

the next coat. Final sanding of the primers may be done by hand with a fine grade of sandpaper. A sealer then is applied and allowed to dry, followed by the final topcoat. When lacquer is used, painters or their helpers usually polish the finished surface after the final coat has dried.

Working Conditions

Painting and coating workers typically work indoors and may be exposed to dangerous fumes from paint and coating solutions. Although painting usually is done in special ventilated booths, many operators wear masks or respirators that cover their noses and mouths. In addition, Federal legislation has led to a decrease in workers' exposure to hazardous chemicals by regulating emissions of volatile organic compounds from paints and other chemicals. This legislation also has led to increasing use of more sophisticated paint booths and fresh-air systems that provide a safer work environment.

Operators have to stand for long periods, and, when using a spray gun, they may have to bend, stoop, or crouch in uncomfortable positions to reach different parts of the article. Most operators work a normal 40-hour week, but self-employed automotive painters sometimes work more than 50 hours a week, depending on the number of vehicles customers want repainted.

Employment

Painting and coating workers held about 187,000 jobs in 2002. Lesser skilled coating, painting, and spraying machine setters, operators, and tenders accounted for about 103,000 jobs, while more skilled transportation equipment painters constituted about 50,000. About 34,000 workers were painting, coating, and decorating workers.

Nearly seventy percent of jobs for salaried workers were found in manufacturing establishments, where the workers applied coatings to items such as fabricated metal products, motor vehicles and related equipment, industrial machines, household and office furniture, and plastics, wood, and paper products. Other workers included automotive painters employed by independent automotive repair shops and body repair and paint shops operated by retail motor vehicle dealers. About 8 percent of painting workers were self-employed; most of these were transportation equipment painters.

Training, Other Qualifications, and Advancement

Most painting and coating workers acquire their skills on the job, usually by watching and helping other, more experienced workers. For most setters, operators, and tenders, as well as painting, coating, and decorating workers, training lasts from a few days to several months. Coating, painting, and spraying machine setters, operators, and tenders who modify the operation of computer-controlled equipment while it is running may require additional training in computer operations and minor programming.

Similarly, most transportation equipment painters start as helpers and gain their skills informally on the job. Becoming skilled in all aspects of automotive painting usually requires 1 to 2 years of on-the-job training. Beginning helpers usually remove trim, clean and sand surfaces to be painted, mask surfaces that they do not want painted, and polish finished work. As helpers gain experience, they progress to more complicated tasks, such as mixing paint to achieve a good match and using spray guns to apply primer coats or final coats to small areas.

Painters should have keen eyesight and a good sense of color. The completion of high school generally is not required, but is advantageous. Additional instruction is offered at many community colleges and vocational or technical schools. Such programs enhance one's employment prospects and can speed promotion to the next level.

Some employers sponsor training programs to help their workers become more productive. This training is available from manufacturers of chemicals, paints, or equipment or from other private sources. It may include safety and quality tips and impart knowledge of products, equipment, and general business practices. Some automotive painters are sent to technical schools to learn the intricacies of mixing and applying different types of paint.

Voluntary certification by the National Institute for Automotive Service Excellence is recognized as the standard of achievement for automotive painters. For certification, painters must pass a written examination and have at least 2 years of experience in the field. High school, trade or vocational school, or community or junior college training in automotive painting and refinishing may substitute for up to 1 year of experience. To retain their certification, painters must retake the examination at least every 5 years.

Experienced painting and coating workers with leadership ability may become team leaders or supervisors. Those who acquire practical experience, college, or other formal training may become sales or technical representatives for chemical or paint companies. Eventually, some automotive painters open their own shops.

Job Outlook

Overall employment of painting and coating workers is expected to grow about as fast as the average for all occupations through the year 2012. Employment growth for highly skilled transportation painters and automotive refinishers is projected to be faster than for lesser skilled painting, coating, and spraying machine operators. In addition to jobs arising from growth, some jobs will become available each year as employers replace experienced operators who transfer to other occupations or leave the labor force.

An increasing population demanding more manufactured goods will spur employment growth among coating, painting, and spraying machine operators. Similarly, increasing demand for hand-painted tiles and related specialty products will lead to growth among painting, coating, and decorating workers. Employment growth will be limited, however, by improvements in the automation of paint and coating applications that will raise worker productivity. For example, operators will be able to coat goods more rapidly as they use sophisticated industrial robots that move and aim spray guns increasingly as humans do; as the cost of robots continues to fall, they will be more widely used. Legislation has set limits on the emissions of ozone-forming volatile organic compounds and is expected to impede job growth among operators in manufacturing; as these firms switch to water-based and powder coatings to comply with the law, they will introduce more efficient automation.

Because the detailed work of refinishing automobiles in collision repair shops and motor vehicle dealerships does not lend itself to automation, painters employed in these establishments are projected to experience faster employment growth. As the demand for refinishing continues to grow, slower productivity growth among these workers will lead to employment increases that are more in line with the growing demand for their services.

The number of job openings for painting and coating workers may fluctuate from year to year due to cyclical changes in economic conditions. When demand for manufactured goods lessen, production may be suspended or reduced, and workers may be laid off or face a shortened workweek. Automotive painters, by contrast, can expect relatively steady work because automobiles damaged in accidents require repair and refinishing regardless of the state of the economy.

Earnings

Median hourly earnings of coating, painting, and spraying machine setters, operators, and tenders were $12.16 in 2002. The middle 50 percent earned between $9.81 and $15.17 an hour. The lowest 10 percent earned less than $8.11, and the highest 10 percent earned more than $18.73 an hour.

Median hourly earnings of transportation equipment painters were $16.13 in 2002. The middle 50 percent earned between $12.31 and $21.40 an hour. The lowest 10 percent earned less than $9.70, and the highest 10 percent earned more than $26.48 an hour. Median hourly earnings of transportation equipment painters were $15.86 in automotive repair and maintenance shops and $23.23 in motor vehicle manufacturing.

Median hourly earnings of painting, coating, and decorating workers were $10.19 in 2002. The middle 50 percent earned between $8.16 and $13.08 an hour. The lowest 10 percent earned less than $7.04, and the highest 10 percent earned more than $16.72 an hour.

Many automotive painters employed by motor vehicle dealers and independent automotive repair shops receive a commission based on the labor cost charged to the customer. Under this method, earnings depend largely on the amount of work a painter does and how fast it is completed. Employers frequently guarantee commissioned painters a minimum weekly salary. Helpers and trainees usually receive an hourly rate until they become sufficiently skilled to work on commission. Trucking companies, bus lines, and other organizations that repair and refinish their own vehicles usually pay by the hour.

Many painting and coating machine operators belong to unions, including the International Brotherhood of Painters and Allied Trades, the Sheet Metal Workers International Association, and the International Brotherhood of Teamsters. Most union operators work for manufacturers and large motor vehicle dealers.

Related Occupations

Other occupations in which workers apply paints and coatings include painters and paperhangers, woodworkers, and machine setters, operators, and tenders—metal and plastic.

Sources of Additional Information

For more details about work opportunities, contact local manufacturers, automotive body repair shops, motor vehicle dealers, and vocational schools; locals of unions representing these workers; or the local office of the State employment service. The State employment service also may be a source of information about training programs.

Information on how to become a certified automotive painter is available from:

➤ National Institute for Automotive Service Excellence (ASE), 101 Blue Seal Dr. SE., Leesburg, VA 20175. Internet: **http://www.asecert.org**

Automotive Body and Related Repairers

(0*NET 49-3021.00, 49-3022.00)

Significant Points

- Both formal and on-the-job training are suggested if a worker wants to become a fully skilled automotive body repairer, because advances in technology have greatly changed the structure, components, and materials used in automobiles.
- Repairers need good reading ability and basic mathematics and computer skills in order to follow instructions and diagrams in print and computer-based technical manuals.

Nature of the Work

Thousands of motor vehicles are damaged in traffic accidents every day. Although some of these vehicles are beyond repair, others can be made to look and drive like new. Automotive body repairers straighten bent bodies, remove dents, and replace crumpled parts that cannot be fixed. They repair all types of vehicles, but work mostly on cars and small trucks, although some work on large trucks, buses, or tractor-trailers.

Automotive body repairers use special equipment to restore damaged metal frames and body sections. Repairers chain or clamp frames and sections to alignment machines that use hydraulic pressure to align damaged components. "Unibody" vehicles—designs built without frames—must be restored to precise factory specifications for the vehicle to operate correctly. To do so, repairers use benchmark systems to make accurate measurements of how much each section is out of alignment and hydraulic machinery to return the vehicle to its original shape.

Body repairers remove badly damaged sections of body panels with a pneumatic metal-cutting gun or by other means and weld in replacement sections. Repairers pull out less serious dents with a hydraulic jack or hand prying bar or knock them out with handtools or pneumatic hammers. They smooth out small dents and creases in the metal by holding a small anvil against one side of the damaged area while hammering the opposite side. Repairers also remove very small pits and dimples with pick hammers and punches in a process called metal finishing.

Body repairers also repair or replace the plastic body parts that are increasingly being used on new-model vehicles. They remove damaged panels and identify the type and properties of the plastic used on the vehicle. With most types of plastic, repairers can apply heat from a hot-air welding gun or by immersion in hot water and press the softened panel back into its original shape by hand. They replace plastic parts that are badly damaged or very difficult to repair.

Body repairers use plastic or solder to fill small dents that cannot be worked out of the plastic or metal panel. On metal panels, they file or grind the hardened filler to the original shape and clean the surface with a media blaster before painting. In many shops, automotive painters do the painting. (These workers are discussed in the *Handbook* statement on painting and coating workers, except construction and maintenance.) In small shops, workers often do both body repairing and painting. A few body repairers specialize in repairing fiberglass car bodies.

The advent of assembly-line repairs in large shops enables the establishment to move away from the one-vehicle, one-repairer method to a team approach and allows body repairers to specialize in one type of repair, such as straightening frames or repairing doors and fenders. Some body repairers specialize in installing and repairing glass in automobiles and other vehicles. *Automotive glass installers and repairers* remove broken, cracked, or pitted windshields and window glass. Glass installers apply a moisture-proofing compound along the edges of the glass, place the glass in the vehicle, and install rubber strips around the sides of the windshield or window to make it secure and weatherproof.

Body repair work has variety and challenges: each damaged vehicle presents a different problem. Using their broad knowledge of automotive construction and repair techniques, repairers must develop appropriate methods for each job. They usually work alone, with only general directions from supervisors. In some shops, helpers or apprentices assist experienced repairers.

Working Conditions

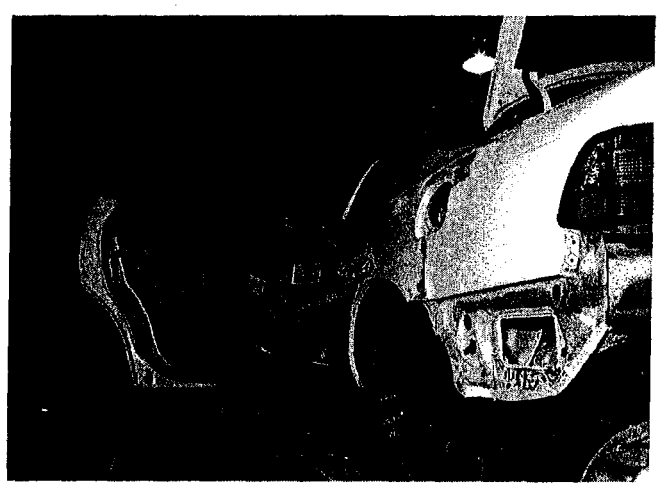
Most automotive body repairers work a standard 40-hour week, although some, including the self-employed, work more than 40 hours a week. Repairers work indoors in body shops that are noisy with the clatters of hammers against metal and the whine of power tools. Most shops are well ventilated, in order to disperse dust and paint fumes. Body repairers often work in awkward or cramped positions, and much of their work is strenuous and dirty. Hazards include cuts from sharp metal edges, burns from torches and heated metal, injuries from power tools, and fumes from paint. However, serious accidents usually are avoided when the shop is kept clean and orderly and when safety practices are observed.

Employment

Automotive body and related repairers held about 220,000 jobs in 2002; about 1 in 10 specialized in automotive glass installation and repair. Most repairers worked for automotive repair and maintenance shops or automobile dealers. Others worked for organizations that maintain their own motor vehicles, such as trucking companies. A small number worked for wholesalers of motor vehicles, parts, and supplies. More than 1automotive body repairer in 10 was self-employed, almost twice the proportion for all installation, maintenance, and repair occupations.

Training, Other Qualifications, and Advancement

Most employers prefer to hire persons who have completed formal training programs in automotive body repair, but these programs supply only a portion of employers' needs. Therefore, most new



Automotive body repairers use their broad knowledge of automotive construction and repair techniques.

repairers receive primarily on-the-job training, supplemented, when available, with short-term training sessions given by vehicle, parts, and equipment manufacturers. Some degree of training is necessary because advances in technology have greatly changed the structure, components, and materials used in automobiles. As a result, proficiency in new repair techniques is necessary. For example, bodies of many newer automobiles are a combination of materials—traditional steel, aluminum, and a growing variety of metal alloys and plastics. Each of these materials or composites requires the use of somewhat different techniques to reshape parts and smooth out dents and small pits. Many high schools, vocational schools, private trade schools, and community colleges offer automotive body repair training as part of their automotive service programs.

A fully skilled automotive body repairer must have good reading ability and basic mathematics and computer skills. Restoring unibody automobiles to their original form requires body repairers to follow instructions and diagrams in technical manuals in order to make precise three-dimensional measurements of the position of one body section relative to another.

A new repairer begins by assisting experienced body repairers in tasks such as removing damaged parts, sanding body panels, and installing repaired parts. Novices learn to remove small dents and to make other minor repairs. They then progress to more difficult tasks, such as straightening body parts and returning them to their correct alignment. Generally, to become skilled in all aspects of body repair requires 3 to 4 years of on-the-job training.

Certification by the National Institute for Automotive Service Excellence (ASE), although voluntary, is the recognized standard of achievement for automotive body repairers. ASE offers a series of four exams for collision repair professionals twice a year. Repairers may take from one to four ASE Master Collision Repair and Refinish Exams. Repairers who pass at least one exam and have 2 years of hands-on work experience earn ASE certification. The completion of a postsecondary program in automotive body repair may be substituted for 1 year of work experience. Those who pass all four exams become ASE Master Collision Repair and Refinish Technicians. Automotive body repairers must retake the examination at least every 5 years to retain their certification.

Continuing education is required throughout a career in automotive body repair. Automotive parts, body materials, and electronics continue to change and to become more complex and technologically advanced. To keep up with the technological advances, repairers must continue to gain new skills, read technical manuals, and attend seminars and classes.

As beginners increase their skills, learn new techniques, and complete work more rapidly, their pay increases. An experienced automotive body repairer with supervisory ability may advance to shop supervisor. Some workers open their own body repair shops. Others become automobile damage appraisers for insurance companies.

Job Outlook

Employment of automotive body repairers is expected to increase about as fast as the average for all occupations through the year 2012. The need to replace experienced repairers who transfer to other occupations or who retire or stop working for other reasons will account for the majority of job openings. Opportunities should be best for persons with formal training in automotive body repair and mechanics.

Demand for qualified body repairers will increase as the number of motor vehicles in operation continues to grow in line with the Nation's population. With each rise in the number of motor vehicles in use, the number of vehicles damaged in accidents also will grow. New automobile designs increasingly have body parts made of steel alloys, aluminum, and plastics—materials that are more difficult to work with than are traditional steel body parts. In addition, new automotive designs of lighter weight are prone to greater collision damage than are older, heavier designs and, consequently, more time is consumed in repair.

However, increasing demand due to growth in the number of vehicles in operation will be somewhat tempered by improvements in the quality of vehicles and technological innovations that enhance safety and reduce the likelihood of accidents. Employment growth also will be limited by changes in body shop management that will increase productivity, reduce overhead expenses, and improve standardization. Larger shops will employ a team approach to repairs to decrease repair time and expand their volume of work. Insurers are increasingly looking to shop networks for repair services. In addition, demand for repair services will grow slowly as more vehicles are declared a total loss after accidents. In many such cases, the vehicles are not repaired because of the high cost of fixing the extensive damage that results when airbags deploy and of replacing the increasingly complex parts and electronic components of new vehicles.

Employment growth will continue to be concentrated in automotive repair and maintenance shops and automobile dealers. The automotive repair business is not very sensitive to changes in economic conditions, and experienced body repairers are rarely laid off. However, although major body damage must be repaired if a vehicle is to be restored to safe operating condition, repair of minor dents and crumpled fenders often can be deferred during an economic slowdown. In times of economic contractions, most employers will hire few new workers, some unprofitable body shops may go out of business, and some dealers might consolidate body shops.

Earnings

Median hourly earnings of automotive body and related repairers, including incentive pay, were $15.71 in 2002. The middle 50 percent earned between $11.64 and $20.94 an hour. The lowest 10 percent earned less than $8.70, and the highest 10 percent earned more than $27.10 an hour. In 2002, median hourly earnings of automotive body and related repairers were $16.96 in automobile dealers and $15.45 in automotive repair and maintenance.

Median hourly earnings of automotive glass installers and repairers, including incentive pay, were $12.93 in 2002. The middle 50 percent earned between $9.90 and $16.58 an hour. The lowest 10 percent earned less than $7.91, and the highest 10 percent earned more than $20.24 an hour. Median hourly earnings in 2002 in automotive repair and maintenance shops, the industry employing the largest number of automotive glass installers and repairers, were $12.86.

The majority of body repairers employed by automotive dealers and repair shops are paid on an incentive basis. Under this method, body repairers are paid a predetermined amount for various tasks, and earnings depend on the amount of work assigned to the repairer and how fast it is completed. Employers frequently guarantee workers a minimum weekly salary. Body repairers who work for trucking companies, buslines, and other organizations that maintain their own vehicles usually receive an hourly wage.

Helpers and trainees typically earn from 30 percent to 60 percent of the earnings of skilled workers. Helpers and trainees usually receive an hourly rate, until they are skilled enough to be paid on an incentive basis.

Related Occupations

Repairing damaged motor vehicles often involves working on mechanical components, as well as vehicle bodies. Automotive body repairers often work closely with individuals in several related occupations, including automotive service technicians and mechanics, diesel service technicians and mechanics, auto damage insurance appraisers, and painting and coating workers, except construction and maintenance.

Sources of Additional Information

Additional details about work opportunities may be obtained from automotive body repair shops, automobile dealers, locals of the unions previously mentioned, or local offices of your State employment service. State employment services also are a source of information about training programs.

For general information about automotive body repairer careers, write to any of the following sources:

➤ Automotive Service Association, P.O. Box 929, Bedford, Texas 76095-0929. Internet: **http://www.asashop.org**

➤ National Automobile Dealers Association, 8400 Westpark Dr., McLean, VA 22102. Internet: **http://www.nada.org**

➤ Inter-Industry Conference On Auto Collision Repair Education Foundation (I-CAR), 3701 Algonquin Rd., Suite 400, Rolling Meadow, IL 60008. Telephone (tollfree): 800-422-7872.

For information on how to become a certified automotive body repairer, write to:

➤ National Institute for Automotive Service Excellence (ASE), 101 Blue Seal Dr. SE., Suite 101, Leesburg, VA 20175. Internet: **http://www.asecert.org**

For a directory of certified automotive body repairer programs, contact:

➤ National Automotive Technician Education Foundation, 101 Blue Seal Dr., SE., Suite 101, Leesburg, VA 20175. Internet: **http://www.natef.org**

For a directory of accredited private trade and technical schools that offer training programs in automotive body repair, contact:

➤ Accrediting Commission of Career Schools and Colleges of Technology, 2101 Wilson Blvd., Suite 302, Arlington, VA 22201. Internet: **http://www.accsct.org**

For a list of public automotive body repair training programs, contact:

➤ SkillsUSA-VICA, P.O. Box 3000, Leesburg, VA 20177-0300. Internet: **http://www.skillsusa.org**

Claims Adjusters, Appraisers, Examiners, and Investigators

(0*NET 13-1031.01, 13-1031.02, 13-1032.00)

Significant Points

- Adjusters and examiners investigate insurance claims, negotiate settlements, and authorize payments; investigators deal with claims where there is a question of liability and where fraud or criminal activity is suspected.
- Most employers prefer to hire college graduates.
- Competition will be keen for jobs as investigators, because this occupation attracts many qualified people.

Nature of the Work

Individuals and businesses purchase insurance policies to protect against monetary losses. In the event of a loss, policyholders submit claims, or requests for payment, as compensation for their loss. Adjusters, examiners, and investigators work primarily for property and casualty insurance companies, for whom they handle a wide variety of claims for property damage, liability, and bodily injury. Their main role is to investigate the claims, negotiate settlements, and authorize payments to claimants, but they must always be mindful not to violate the claimant's rights under Federal and State privacy laws. They must determine whether the customer's insurance policy covers the loss and how much of the loss should be paid to the claimant. Although many adjusters, appraisers, examiners, and investigators have overlapping functions and may even perform the same job, the insurance industry generally assigns specific roles to each of these claims workers.

Adjusters plan and schedule the work required to process a claim that would follow, for example, an automobile accident or damage to one's home caused by a storm. They investigate claims by interviewing the claimant and witnesses, consulting police and hospital records, and inspecting property damage to determine the extent of the company's liability. Adjusters may also consult with other professionals, such as accountants, architects, construction workers, engineers, lawyers, and physicians, who can offer a more expert evaluation of a claim. The information gathered, including photographs and written or taped statements, is set down in a report that is then used to evaluate a claim. When the policyholder's claim is legitimate, the claims adjuster negotiates with the claimant and settles the claim. When claims are contested, adjusters will work with attorneys and expert witnesses to defend the insurer's position.

Many companies centralize the claims-adjusting operation in a claims center, where the cost of repair is determined and a check is issued immediately. More complex cases, usually involving bodily injury, are referred to senior adjusters. Some adjusters work with multiple types of insurance; however, most specialize in homeowner claims, business losses, automotive damage, or workers' compensation.

Claimants can opt not to rely on the services of their insurance company's adjuster and may instead choose to hire a public adjuster. Public adjusters assist clients in preparing and presenting claims to insurance companies and try to negotiate a fair settlement. They perform the same services as adjusters who work directly for companies; however, they work in the best interests of the client, rather than the insurance company.

Claims examiners within property and casualty insurance firms may have duties similar to those of an adjuster, but often their primary job is to review the claims submitted to ensure that proper guidelines have been followed. They may assist adjusters with complex and complicated claims or when a disaster suddenly greatly increases the volume of claims. Most claims examiners work for life or health insurance companies. In health insurance companies, examiners review health-related claims to see whether costs are reasonable based on the diagnosis. The examiners are provided with guides that supply information on the average period of disability, the expected treatments, and the average hospital stay, for patients with the various ailments for which a claim may be submitted. Examiners check claim applications for completeness and accuracy, interview medical specialists, and consult policy files to verify the information reported in a claim. Examiners will then either authorize the appropriate payment or refer the claim to an investigator for a more thorough review. Claims examiners usually specialize in group or individual insurance plans and in hospital, dental, or prescription drug claims.

In life insurance, claims examiners review the causes of death, particularly in the case of an accident, because most life insurance policies pay additional benefits if a death is accidental. Claims examiners also may review new applications for life insurance to make sure that applicants have no serious illnesses that would make them a high risk to insure and thus disqualify them from obtaining insurance.

Another occupation that plays an important role in the accurate settlement of claims is that of the *appraiser*, whose role is to assess the cost or value of an insured item. The majority of appraisers employed by insurance companies and independent adjusting firms are *auto damage appraisers.* These appraisers inspect damaged vehicles after an accident and estimate the cost of repairs. This information is then relayed to the adjuster, who incorporates the appraisal into the settlement. Auto damage appraisers are valued by insurance companies because they can provide an unbiased judgment of repair costs. Otherwise, the companies would have to rely on auto mechanics' estimates, which might be unreasonably high.

Many claims adjusters and auto damage appraisers are equipped with laptop computers from which they can download the necessary forms and files from insurance company databases. Many adjusters and appraisers use digital cameras, which allow photographs of the damage to be sent to the company via the Internet. Many also input information about the damage directly into their computers, where software programs produce estimates of damage on standard

Claims adjusters, appraisers, examiners, and investigators gather facts related to insurance claims.

forms. These new technologies allow for faster and more efficient processing of claims.

When adjusters or examiners suspect fraud, they refer the claim to an investigator. *Insurance investigators* in an insurance company's Special Investigative Unit handle claims in which a company suspects fraudulent or criminal activity, such as arson cases, false workers' disability claims, staged accidents, or unnecessary medical treatments. The severity of insurance fraud cases can vary greatly, from claimants simply overstating the damage to a vehicle to complicated fraud rings responsible for many claimants supported by dishonest doctors, lawyers, and even insurance personnel.

Investigators usually start with a database search to obtain background information on claimants and witnesses. Investigators can access certain personal information and identify Social Security numbers, aliases, driver's license numbers, addresses, phone numbers, criminal records, and past claims histories to establish whether a claimant has ever attempted insurance fraud. Then, investigators may visit claimants and witnesses to obtain a recorded statement, take photographs, and inspect facilities, such as a doctor's office, to determine whether they have a proper license. Investigators often consult with legal counsel and can be expert witnesses in court cases.

Often, investigators also perform surveillance work. For example, in a case involving fraudulent workers' compensation claims, an investigator may covertly observe the claimant for several days or even weeks. If the investigator observes the subject performing an activity that is ruled out by injuries stated in a workers' compensation claim, the investigator would take video or still photographs document the activity and report it to the insurance company.

Working Conditions

Working environments of claims adjusters, appraisers, examiners, and investigators vary greatly. Most claims examiners employed by life and health insurance companies work a standard 5-day, 40-hour week in a typical office environment. Many claims adjusters and auto damage appraisers, however, often work outside the office, inspecting damaged buildings and automobiles. Adjusters who inspect damaged buildings must be wary of potential hazards such as collapsed roofs and floors, as well as weakened structures.

In general, adjusters are able to arrange their work schedules to accommodate evening and weekend appointments with clients. This accommodation sometimes results in adjusters working irregular schedules or more than 40 hours a week, especially when there are a lot of claims. Some report to the office every morning to get their assignments, while others simply call in from home and spend their days traveling to claim sites. New technology, such as laptop computers and cellular telephones, is making telecommuting easier for claims adjusters and auto damage appraisers. Many adjusters work inside their office only a few hours a week, while others conduct their business entirely out of their home and automobile. Occasionally, experienced adjusters must be away from home for days—for example, when they travel to the scene of a disaster such as a tornado, hurricane, or flood—to work with local adjusters and government officials. Adjusters often are called to work in the event of such emergencies and may have to work 50 or 60 hours a week until all claims are resolved.

Insurance investigators often work irregular hours because of e need to conduct surveillance and contact people who are not available during normal working hours. Early morning, evening, nd weekend work is common. Some days, investigators will spend all day in the office doing database searches, making telephone calls, and writing reports. Other times, they may be away performing surveillance activities or interviewing witnesses. Some of the work can involve confrontation with claimants and others involved in a case, so the job can be stressful and dangerous.

Employment

Adjusters, appraisers, examiners, and investigators held about 241,000 jobs in 2002. Of these, more than 14,000 were jobs held by auto damage insurance appraisers. Insurance carriers employed nearly 60 percent of claims adjusters, appraisers, examiners, and investigators; more than 20 percent were employed by insurance agencies and brokerages, and private claims adjusting companies. Around 2 percent of adjusters, appraisers, examiners, and investigators were self-employed.

Training, Other Qualifications, and Advancement

Training and entry requirements vary widely for claims adjusters, appraisers, examiners, and investigators. Although many in these occupations do not have a college degree, most companies prefer to hire college graduates. No specific college major is recommended, but a variety of backgrounds can be an asset. A claims adjuster, for example, who has a business or an accounting background might specialize in claims of financial loss due to strikes, equipment breakdowns, or damage to merchandise. College training in architecture or engineering is helpful in adjusting industrial claims, such as those involving damage from fires or other accidents. Some claims adjusters and examiners apply expertise acquired through specialized professional training to adjust claims. A legal background can be beneficial to someone handling workers' compensation and product liability cases. A medical background is useful for those examiners working on medical and life insurance claims.

Because they often work closely with claimants, witnesses, and other insurance professionals, claims adjusters and examiners must be able to communicate effectively with others. Knowledge of computer applications also is extremely important. In addition, a valid driver's license and a good driving record are required for workers for whom travel is an important aspect of their job. Some companies require applicants to pass a series of written aptitude tests designed to measure communication, analytical, and general mathematical skills.

Licensing requirements for these workers vary by State. Some States have very few requirements, while others require the completion of prelicensing education or a satisfactory score on a licensing exam. Completion of the requirements to earn a voluntary professional designation may in some cases be substituted for the exam requirement. In some States, claims adjusters employed by insurance companies can work under the company license and need not become licensed themselves. Separate or additional requirements may apply for public adjusters. For example, some States require public adjusters to file a surety bond.

Continuing education (CE) in claims is very important for claims adjusters, appraisers, examiners, and investigators because new Federal and State laws and court decisions frequently affect how claims are handled or who is covered by insurance policies. Also, examiners working on life and health claims must be familiar with new medical procedures and prescription drugs. Some States that require licensing also require a certain number of CE credits per year in order to renew the license. These credits can be obtained from a number of sources. Many companies offer training sessions to inform their employees of industry changes. Many schools and associations give courses and seminars on various topics having to with claims. Correspondence courses via the Internet are making long-distance learning possible. Workers also can earn CE credits by writing articles for claims publications or by giving lectures and presentations. In addition, many adjusters and examiners choose to

earn professional certifications and designations for independent recognition of their professional expertise. Although requirements for these designations vary, many entail at least 5 to 10 years' experience in the claims field and passing examinations; in addition, a certain number of CE credits must be earned each year to retain the designation.

For auto damage appraiser jobs, insurance companies and independent adjusting firms typically prefer to hire persons with experience as an estimator or manager of an auto-body repair shop. An appraiser must know how to repair vehicles in order to identify and estimate damage, and technical skills are essential. While auto damage appraisers do not require a college education, most companies prefer to hire persons with formal training. Many vocational colleges offer 2-year programs in auto-body repair on how to estimate and repair damaged vehicles. Some States require auto damage appraisers to be licensed, and certification also may be required or preferred. Basic computer skills are an important qualification for many auto damage appraiser positions. As with adjusters and examiners, continuing education is important because of the continual introduction of new car models and repair techniques.

Most insurance companies prefer to hire former law enforcement officers or private investigators as insurance investigators. Many experienced claims adjusters or examiners also become investigators. Licensing requirements vary among States. Most employers look for individuals with ingenuity who are persistent and assertive. Investigators should not be afraid of confrontation, should communicate well, and should be able to think on their feet. Good interviewing and interrogation skills also are important and usually are acquired in earlier careers in law enforcement.

Beginning claims adjusters, appraisers, examiners, and investigators work on small claims under the supervision of an experienced worker. As they learn more about claims investigation and settlement, they are assigned larger, more complex claims. Trainees are promoted as they demonstrate competence in handling assignments and progress in their coursework. Employees who demonstrate competence in claims work or administrative skills may be promoted to more responsible managerial or administrative jobs. Similarly, claims investigators may rise to supervisor or manager of the investigations department. Once they achieve a certain level of expertise, many choose to start their own independent adjusting or auto damage appraising firms.

Job Outlook

Employment of claims adjusters, appraisers, examiners, and investigators is expected to grow about as fast as the average for all occupations over the 2002-12 period. Opportunities will be best for those with a college degree. Numerous job openings also will result from the need to replace workers who transfer to other occupations or leave the labor force.

Many insurance carriers are downsizing their claims staff in an effort to contain costs. Larger companies are relying more on customer service representatives in call centers to handle the recording of the necessary details of the claim, allowing adjusters to spend more of their time investigating claims. New technology also is reducing the amount of time it takes for an adjuster to complete a claim, thereby increasing the number of claims that one adjuster can handle. However, as long as more insurance policies are being sold to accommodate a growing population, there will be a need for adjusters, appraisers, examiners, and investigators. Further, as the elderly population increases, there will be a greater need for healthcare, resulting in more claims.

Despite recent gains in productivity resulting from technological advances, these jobs are not easily automated. Adjusters still are needed to contact policyholders, inspect damaged property, and consult with experts. Although the number of claims in litigation and the number and complexity of insurance fraud cases are expected to increase over the next decade, demand for insurance investigators is not expected to grow significantly, because technology such as the Internet, which reduces the amount of time it takes to perform background checks, will allow investigators to handle more cases. Competition for investigator jobs will remain keen because the occupation attracts many qualified people, including retirees from law enforcement and military careers, as well as experienced claims adjusters and examiners who choose to get their investigator license.

As with claims adjusters, examiners, and investigators, employment of auto damage appraisers should grow about as fast as the average for all occupations. Insurance companies and agents continue to sell growing numbers of auto insurance policies, leading to more claims being filed that require the attention of an auto damage appraiser. The work of this occupation is not easily automated, because most appraisals require an on-site inspection. However, employment growth will be limited by industry downsizing and the implementation of new technology that is making auto damage appraisers more efficient. In addition, some insurance companies are opening their own repair facilities, which may reduce the need for auto damage appraisers.

Earnings

Earnings of claims adjusters, examiners, and investigators vary significantly. Median annual earnings were $43,020 in 2002. The middle 50 percent earned between $ 33,120 and $ 56,170. The lowest 10 percent earned less than $ 26,680, and the highest 10 percent earned more than $ 71,350.

Many claims adjusters, especially those who work for insurance companies, receive additional bonuses or benefits as part of their job. Adjusters often are furnished a laptop computer, a cellular telephone, and a company car or are reimbursed for the use of their own vehicle for business purposes.

Median annual earnings of auto damage insurance appraisers were $42,630 in 2002. The middle 50 percent earned between $34,570 and $52,360. The lowest 10 percent earned less than $27,410, and the highest 10 percent earned more than $60,470.

Related Occupations

Property-casualty insurance adjusters and life and health insurance examiners must determine the validity of a claim and negotiate a settlement. They also are responsible for determining how much to reimburse the client. Occupations similar to those of claims adjusters, appraisers, examiners, and investigators include cost estimators; bill and account collectors; medical records and health information technicians; billing and posting clerks; and credit authorizers, checkers, and clerks, as well as bookkeeping, accounting, and auditing clerks.

In determining the validity of a claim, insurance adjusters must inspect the damage in order to assess the magnitude of the loss. Workers who perform similar duties include fire inspectors and investigators and construction and building inspectors.

To ensure that company practices and procedures are followed, property and casualty examiners review insurance claims to which a claims adjuster has already proposed a settlement. Others in occupations that review documents for accuracy and compliance with a given set of rules and regulations are tax examiners and revenue agents, as well as accountants and auditors.

Insurance investigators detect and investigate fraudulent claims and criminal activity. Their work is similar to that of private detectives and investigators.

Like automotive body and related repairers and automotive service technicians and mechanics, auto damage appraisers must be familiar with the structure and functions of various automobiles and their parts.

Sources of Additional Information

General information about a career as a claims adjuster, an appraiser, an examiner, or an investigator is available from the home offices of many life, health, and property and casualty insurance companies.

Information about licensing requirements for claims adjusters may be obtained from the department of insurance in each State.

For information about professional designation and training programs, contact:

- Insurance Institute of America, 720 Providence Rd., P.O. Box 3016, Malvern, PA 19355-0716. Internet: **http://www.aicpcu.org**
- The American College, 270 South Bryn Mawr Ave., Bryn Mawr, PA 19010-2196. Internet: **http://www.amercoll.edu**
- International Claim Association, 1255 23rd St., NW., Washington, DC 20037. Internet: **http://www.claim.org**

Information on careers in auto damage appraising can be obtained from

- Independent Automotive Damage Appraisers Association, P.O. Box 12291 Columbus, GA 31917-2291. Internet: **http://www.iada.org**

SECTION 2.A

AUTOMOTIVE BODY PROGRAM

GRADUATE FOLLOW-UP SURVEY

Graduate Follow-up Summary

The respondents are positive on the program. As noted, graphing the response demographics would show a bell-shaped curve with bulk of the responses coming from graduates 20 years out of the program, who are unable to comment on current teaching technology, but recognized from their professional experience directions program needs to take.

Salaries show auto body to be a financially rewarding career with no placement difficulty whatsoever. Rather, an acute shortage exists of trained professionals and opportunities for career advancement include corporate employment and business ownership.

Auto body labs considered are essential to proper training and these labs are to be equipped with up-to-date equipment. The respondents gave near unanimous endorsement of Ferris education: 8 of 33 would consider Ferris for further study, though the reality of these graduates returning to Ferris for a Bachelor's degree is limited by time, distance, and the responsibilities of their current positions. We did have 17 of the 33 graduates already obtain a Bachelor degree in Automotive and Heavy Equipment Management.

Survey data could have benefited from more responses from recent graduates; nonetheless, information from mid-career graduates is valuable because it shows career trends. Also the success reported by respondents more advanced in their careers indicates that their Ferris training enabled them to keep up with sweeping changes in field and prepared them for advancement.

GRADUATE FOLLOW-UP SURVEY RESULTS

Thirty-three responses from a mailing of 328 represent a sampling of 10%.

The alumni survey was mailed to 328 program graduates asking, essentially, how successfully the Auto Body program had prepared its graduates for their technical careers. The survey contained 14 questions. Thirty-three of those surveyed responded.

The bulk of the responses came from those individuals who graduated in the 1980s who are in the middle of their career and well established. Of the 33 responses, 1 came from 1978, 19 came from the 1980s graduates, 5 came from the 1990s graduates, and 8 came from the 2000s graduates. 25 of the responses were from over 15 years ago. Only 2.4% were from the last 5 years. The lack of respondents in the last 5 years as well as the negative comments from those recent grads indicate the program has deteriorated in quality as can be seen by the advisory committee statement in question 10; "It once renowned auto body schools. For what ever reasons, it seems to have slipped especially in eyes of student. This is a concern because they are your best recruiters if they are satisfied."

In the survey responses the mean graduate response year was 1998 with an average of 1989, which was represented in the responses received. This large amount of responses could be due to the graduates being well established in their careers and they could contribute to the assessment of the program.

Survey responses
Questions 1 through 5 asked employment background: where the respondent is currently working and length of time with present employer, current position or job title, starting pay and current pay.

Employment
4 employees are self-employed (owners)
5 have corporate employers
6 work in dealerships
3 work for independent body shops
7 are employed in related industries
1 works for the United States Government
1 is not employed in related work area
1 is on disability services

Years with Current Employer

5 years or less	12
6 to 9 years	6
10 to 19 years	12
20 to 29 years	1
30 or more years	0

Job title/Present Position	# of Graduates
Owner	4
Vice President	1
Manager/Director	10
Technician	6
Collision Repair Coordinator	2
Design Engineer	1
Estimator/Inspector	1
Internet Sales/Web Development	1
Network Claim Representative	1
Sales	1
Regional Director	1
Service Advisor	1
Student Worker	1
Warranty Support Specialist	1
Disable	1

Starting Salary	
Under $10,000	0
$10,000-$15,000	4
$16,000-$20,000	3
$21,000-$25,000	4
$26,000-$30,000	6
$31,000-$39,000	8
$40,000-$45,000	0
$46,000-$50,000	2
$51,000-$55,000	2
40% Commission	1

Of the 33 survey responses received the average starting salary was $29,153.08 and the minimum salary the students hired in on was $10,000 and the maximum starting salary was $55,000.

Current Salary	
Under $10,000	0
$11,000-$20,000	2
$21,000-$30,000	5
$31,000-$40,000	5
$41,000-$50,000	6
$51,000-$60,000	3
$61,000-$70,000	2
$71,000-$80,000	3
$81,000-$90,000	1
Over $100,000	4
45% Commission	1

Of the 33 survey responses received the average current salary was $56,356.10 and the minimum current salary was $10,560 for a person working part-time and the maximum current salary was $160,000 for an individual who owned their own body shop in the Grand Rapids area.

Questions 6 through 10 sought data on the respondent's placement and preparation for their career:

- *Whether they experience difficulty securing their first job after graduation.*
- *What phase of their education did they feel most valuable*
- *What ASE certifications were they able to obtain based on FSU coursework.*
- *How effective was the lab experience in preparing them for employment.*
- *What changes should be made.*

Job Placement

76% of the graduates surveyed responded that it was not difficult to find a job while the other 24% stated that it was difficult to find a job especially with no work experience. 58% of the graduates surveyed went onto the Automotive & Heavy Equipment Mgmt program. 56% of the graduates who found work immediately following graduation stated that they had job offers through an internship opportunity or meet a company recruiter at the FSU job fair.

16 of the graduates had work immediately following graduation.
8 of the graduates did not have a comment on job placement they responded with not applicable.
5 of the graduates could not find work due to lack of work experience or job market.
2 had prior work experience so they already had a job lined up upon completion of the program.
1 of the graduates who responded was disabled.
1 of the graduate stated no one wanted temporary workers during summer breaks, continued education.

Phase of Education Found Most Valuable	**# Graduates Responses**
Hands-on experience in the auto body labs	16
All courses in the auto body curriculum	9
Paint Related courses	2
Structural Repair courses	2
Frame Repair courses	1
Sales & Customer Service courses	1
Warranty courses	1
Material courses	1
Did not respond	4

ASE/Michigan Certifications Obtain Based on Course Work at Ferris

Painting and Refinishing	19
Non-Structural Analysis & Damage Repair	20
Structural Analysis & Damage Repair	18
Mechanical & Electrical Components	12
Damage Analysis & Estimating	10

9 out of the 33 graduates survived did not attempt their ASE or Michigan certifications for two reasons; (1) they were continuing their education and (2) their career did not require them to have certifications.

Effectiveness of course work as preparation for work in their field 33

Excellent	2
Very good	2
Good	16
Deficient	4
Did not respond	9

3 9% were deficient or did not respond

Shop and Instructors really need updated.

indicates some instructor problem

Recommended changes to the Auto Body Curriculum

New shop with updated torches and equipment.
Teach pull vehicles manually and actually do it.
Better course outline to teach the harder stuff.
More mechanical structured classes.
Real life situations and practical repairs should be addressed.
More door skin & alignment of panels.
More math and computer study.
More emphasis stressed on time management.
New coating techniques.
More equipment and more emphasis on custom paint & possibly kit-car and chopper kit building.

Effectiveness of the auto body lab experience as preparation for work in the field

Excellent	5
Very good	4
Good	17
Deficient	1
Did not respond	6

Recommended changes to the Auto Body lab

More emphasis on training hours.
Remove leading & oxy welding from curriculum.
More options, better marketing and emphasis on some of the more popular areas of industry.
Too slow paced, not enough pressure to perform compared to production repair.
More welding skills including tig, plasma, cutting and aluminum.
Different paint systems should be tired, not just PPG, there are non-catalyzed paints that utilize paint methods.

Questions 11 and 12 asked about program's equipment and computer training.
Was the equipment in courses and labs up-to-date.
Is the computer training received in the program useful on the job.

Status of Equipment

Yes	19
No	9
N/A	5

Computers and Computer Skills

Yes	11
No	4
Before Computers	12
N/A	6

Most (36%) of the respondents graduated before computers were integrated into the curriculum.

Question 13 asked whether the respondent would consider Ferris State University if returning for a Bachelor's degree.

Yes	8
No	4
Maybe	2

17 of the graduates surveyed has already returned or continued on with their education at Ferris for a Bachelor of Science degree in Automotive & Heavy Equipment Management.

Question 14 asked the year of graduation.

A majority of the responses received were from the 1980's.

Year of Graduation	# of Responses
1978	1
1980	6
1982	2
1983	1
1984	1
1985	3
1986	1
1987	1
1988	1
1989	3
1990	1
1991	1
1994	1
1996	1
1998	1
2000	2
2001	2
2002	2
2004	2

AUTO BODY PROGRAM RELATIVE TO YOUR WORK

Question: Please rate the relevance of the subject areas that you studied in the Auto Body Program to your work.

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	HIGHLY RELEVANT	RELEVANT	SOMEWHAT RELEVANT	NOT RELEVANT	
Non-Structural Repair – Preparation	67%	21%	12%	0%	= 100%
Panel Replacement & Alignment	67%	25%	4%	4%	= 100%
Working with Trim & Hardware	52%	24%	20%	4%	= 100%
Metal Straightening	60%	20%	16%	4%	= 100%
ing Body Fillers	63%	11%	19%	7%	= 100%
Refinishing – Safety & Environmental Practices	68%	20%	12%	0%	= 100%
Understanding Automotive Finishes & Application	52%	32%	16%	0%	= 100%
Structural Repair – Frame Unibody	67%	17%	8%	8%	= 100%
Front Wheel Alignment	36%	24%	28%	12%	= 100%
Estimating – Analyzing Damage	54%	27%	12%	7%	= 100%

GRADUATE SURVEY RESPONSES

Question 1: Where are you currently working?

Survey #	Currently Working	Where Are You Currently Working?	City, State Zip
1	Yes	Ferris State University	Big Rapids, MI
2	Yes	Betten Body Shop	Muskegon, MI
3	Yes	General Motors Proving Ground	Milford, MI
4	Yes	Progressive Insurance	Kalamazoo, MI
5	Yes	Dick's Auto Parts	Middlebury, IN
6	Yes	General Motors Tech Center	Warren, MI
7	Yes	Martin Chevy	Saginaw, MI
8	Yes	SSI Disability	Clio, MI
9	Yes	Nyenhuis Carstar	Grandville, MI
10	Yes	M&M Collision Center	Big Rapids, MI
11	Yes	Volkswagon of America	Alpharette, GA
12	Yes	41 Lumber	Escanaba, MI
13	Yes	Valenti Management	Memphis, TN
14	Yes	Jerome Duncan Ford	Sterling Heights, MI
15	Yes	EMD Chemical, Inc.	Riverview, MI
16	Yes	State Farm Insurance	Kalamazoo, MI
17	Yes	C&C Collision	Dansville MI
18	Yes	Alpine Collision Center	Grand Rapids, MI
19	Yes	Dusty's Auto Body & Detail	Ludington, MI
20	Yes	State Farm Insurance	Marquette, MI
21	Yes	General Motors	Warren, MI
22	Yes	Single Source Inc.	Pontiac, MI
23	Yes	PPG Industries	Detroit, MI
24	Yes	Mike's Bumping & Painting	Saginaw, MI
25	Yes	Holiday Chevrolet	Farmington Hills, MI
26	Yes	Percepta- Contract to Ford	Dearborn, MI
27	Yes	Daleiden's	Kalamazoo, MI
28	Yes	Heritage Collision Repairs	Mt Pleasant, MI
29	Yes	Ballas Buick-GMC	Toledo, OH
30	Yes	Lee's Collision	Muskegon, MI
31	Yes	Betten Chevy Olds Cadillac Body Shop	Muskegon, MI
32	Yes	United States Army	Fort Drum, NY
33	Yes	NGK Spark Plugs USA	Wixom, MI

Question 2: How long have you been employed there?

Survey #	Q2: How Long Employed There?	
1	1.0	Year
2	0.2	Months
3	1.5	Years
4	5.0	Years
5	1.0	Years
6	6.0	Years
7	10.0	Years
8	0.0	Years
9	6.0	Months
10	10.0	Years
11	18.0	Years
12	8.0	Years
13	5.0	Years
14	8.0	Years
15	16.0	Years
16	15.0	Years
17	8.5	Years
18	16.0	Years
19	17.0	Years
20	4.5	Years
21	12.0	Years
22	10.0	Years
23	18.0	Years
24	17.0	Years
25	1.0	Month
26	6.0	Years
27	23.0	Years
28	8.0	Years
29	18.0	Years
30	6.0	Months
31	8	Months
32	15	Years
33	3	Months

Survey #	Question 3: Your Present Position or Job Title?	Question 4: Start Salary	Question 5: Present Salary
1	Student Worker	5.25/hour	5.50/hour
2	Body/Paint Technician Vehicle Safety & Crashworthiness	12.00/hour	12.00/hour
3	Laboratory	14.00/hour	15.00/hour
4	Network Claim Rep	31,000.00	49,500.00
5	Internet Sales/Web Developer	10.00/hour	10.00/hour
6	Design Engineer	55,000.00	74,000.00
7	Auto Body Technician	10.50/hour	13.50/hour
8		0.00	0.00
9	Collision Repair Coordinator	37,700.00	37,700.00
10	Owner/Body Man	35,000.00	35,000.00
11	Region Manager	30,000.00	130,000.00
12	Outside Salesman	32,000.00	32,000.00
13	District Manager	52,000.00	68,000.00
14	Body Technician	45% Commission	40 % Commission
15	National Account Manager	32,000.00	100,000 +
16	Claim Team Manager	27,000.00	86,000.00
17	Owner	15,000.00	78,000.00
18	President/Owner	35,000.00	160,000.00
19	Owner/Manager	0.00	1,350/week
20	Estimator/Inspector	33,000.00	43,000.00
21	Team Leader Interior/Exterior Service Development	27,000.00	48,500.00
22	Regional Director	0.00	100,000.00
23	Territory Manager Detroit	24,000.00	80,000.00
24	Repair Tech	10,000.00	35,000.00
25	Body Shop Manager	46,000.00	46,000.00
26	Group Leader Ford Digital Imaging	23,000.00	60,000.00
27	Vice President	300/week	60,000.00
28	Auto Body Tech	10.00/hour	15.75/hour
29	Service Advisor	22,000.00	46,000.00
30	Collision Repair Tech	15.50/hour	15.50/hour
31	Assistant Body Shop Manager	36,000	36,000
32	Company Commander/Captain	30,000	60,000
33	Warranty Support Specialist/Product Concern	50,000	50,000

Question 6: Was if difficult to find a job when you graduated?

Survey #	Difficult To Find Job?	11	No	23	No
		12	No	24	No
1	YES	13	No	25	Yes
2	NO	14	Yes	26	No
3	NO	15	No	27	No
4	NO	16	No	28	No
5	YES	17	No	29	No
6	No	18	No	30	No
7	NO	19	No	31	Yes
8	YES	20	No	32	No
9	YES	21	No	33	Yes
10	No	22	No		

Survey #	Explain:
1	I applied to many body shops and was denied because I had a Ferris Degree and no one wanted to re-teach a student or they weren't hiring at that time.
2	I was employed in a body shop during school so I continued for there for a month after school was out then I found a better job that could accommodate me.
3	It was the first job I interviewed for after leaving Ferris. However, the process lasted for three months before I was hired for the position.
4	I had 3 different options to go with for employment right out of school. I have worked for 3 different companies since graduation.
5	Many employers are looking for employees with more experience than just 2 years of auto body. More work experience the better off you are.
6	Hired with Sherwin Williams at job fair provided by FSU.
7	No it wasn't hard to find a job, but found out that out-of-school experience is not the same as work experience.
8	I was not employable due to a defective education. Auto body changed to front wheel drive Mcpherson Strot Suspension Unitized Body Design in 1980 now all passenger cars are this Volvo type design the program did not teach this type of repairs.
9	I had no idea what area I wanted to start in, so I just moved from a painter to my current management position.
10	Was hired in a dealership.
11	Connected with VW of American thru Ferris placement office. After short internship at the retail car dealership. I have been with VW ever since.
12	Automotive based positions readily available. Having enough of "car customers", I decided to sell something else.
13	Recruiters were at FSU regularly and I had little difficulty finding my first job out of Ferris. I located employment in South Texas where I wanted to go.

14	Need work experience.
16	I was able to find work at a dealership immediately upon graduating. The bachelor's degree was a big help in my job search.
19	I worked at several body shops in Michigan and Florida between 1980 and 1988 when I started my own business. I always found work when I moved.
20	Hired at first application as an Auto Body Technician
21	I interned at EDS/GM for my AHM degree and hired full time after graduation.
22	I graduated from FSU with B.S. in AHM. I had a job six months before I graduated lined up with a manufacturer.
23	I was hired on campus 1987.
24	I had prior experience.
25.	No experience or not enough.
26	Stayed and received AHM degree.
27	I had worked for this company before Ferris while on a co-op program in high school.
29	Received a thorough education at Ferris and was taught to work hard.
31	Searched for a job during the summer breaks but collision industry was weak at the time and no one wanted to hire temporary workers. The market was flooded with over qualified techs who were seeking employment as well.
33	Very few positions were available (quality positions) when graduating AHEM. I had more jobs available out of Auto Body.

Question 7: Which phase of your on-campus education (courses, auto-body lab) was most valuable in preparing you for work?

Survey #	**Explain:**
1	The lab work.
2	Auto body lab where I had to bring my own work to stay busy. Survey Response
3	Lab time was the most beneficial for me. In relationship to my current job, being familiar with tools and equipment is more applicable.
4	Automotive structural, any 8 Automotive Body Estimating
5	Courses, because I went from auto body to AHM. Many of the courses I used in my daily work schedule.
6	AHM & Auto Body Technical Experience
7	Auto body lab was hands on work which is how you learn the trade.
9	The 8am classes everyday.

10	Lab
11	AHM course = very versatile
12	Sales and customer understanding courses in AHM. "Customers For Life" training.
13	All was done pretty well. I appreciated the thoughtful guidance of Joe Browdowski, Gary Edgerly, James Bigelow and Mr. Unger. Those guys were very nice and knowledgeable in the field and gave me good insight on life as well as work.
14	Hands on work.
15	Paint related, first job with Sikkens Refinish group of Akze Nobel.
16	Auto Body lab, estimating damages, internship (automotive tech program).
17	Auto body and management courses to much emphasis is put toward classes that have nothing to do with minor/major trying to achieve human science and particular math classes have nothing to do with most programs. This is wasted time and money spent by students.
18	Unibody collision repair – structural
19	Auto body lab and classroom
20	Lab
21	Auto body lab classes and course work. Instructors were very student oriented and willing to help.
24	Frame repair.
25	AHM, speech, sales, marketing. Auto Body lab needs updated instruction.
26	Paint processes and application
27	Auto body lab, great diversity in training.
28	Lab
29	A lot of hands on experience with a great mix of classroom teaching. AHT we were made to work hard and find a job and sell ourselves.
30	Auto body lab and lectures, when the instructors used I-car based info the teach from it was the most useful.
31	I found the auto-body lab was helpful in that the hands on experience helps prepare the students for "real world" situations by teaching the fundamentals of collision repair. It is however equally important to compliment the lab time with course work. The course work should be used to further explain the repair theories and processes along with overall operations within the collision repair industry.
33	Auto Body Lab & warranty & materials courses.

QUESTION 8: ASE/MICHIGAN CERTIFICATION AREAS

Survey #	Explain:
1	None, going on for Bachelor Degree
2	All expect Damage Analysis & Estimating. Passing these were not accomplished by the course, it was by studying the ASE Test Preparation booklets.
3	Painting & Refinishing
4	I would prefer a more structured mechanic background in conjunction with auto body.
5	Mechanical & Electrical Components
6	Painting & refinishing, Non-structural Analysis & Damage Repair, Structural Analysis & Damage Repair.
11	N/A, I went straight from the Auto Body program into AHM and never actually worked in the Auto Body field.
12	Never applied. After AHM I never got my hands dirty.
22	N/A – never did Auto Body or painting work, went straight into sales.
24	ASE didn't offer all those certification at that time but I had other such as front end alignment, heating & air conditioning etc.
25	All
26	Did not try taking a call center job.
28	All
29	None, apply to my current position
31	I did not attempt the mechanical and electrical components test.

QUESTION 9: How effective was your course work in preparing you for work? Should any changes be made?

Survey #	Explain:
1	Not Very Good, yes changes would be new shop with updated torches and equipment.
2	It showed the basics in minor repair only. They should teach you how to pull vehicles manually and actually do it. The teachers need to help the students who want to learn and they should have a better course outline to teach the harder stuff.
4	Very effective (I passed all 4 upon 1st attempt). Yes, more mechanical structured classes.
5	Very, many of the courses are just preparing you better for the real world. Yes, more paint & filler based classes along with more structural and non-structural classes are needed.
6	Extremely, one semester desiccated to repairing vehicles based on time allotted in crash manual. Not enough emphasis was placed on time allotted to finish a vehicle.
7	Basic skills are always good to know (common sense). Don't know it was a long time ago.

8	Not, the changes that should be made are puzzles 101. Cars today are basically cut a part and welded back together like a puzzle.
9	It was nice to learn the correct way to repair a vehicle. Changes would be the flow of a body shop, real life situations and practical repairs should be addressed.
10	About 50%, more door skin & alignment of panels.
13	For 1st job it was excellent, I still enjoy dabbling a bit and recently restored a 1949 Desote.
14	Gave more confidence, more math and computer study.
15	Good for basics of paint, business degree helped more for sales. If only teaching to aspire to body-shop then just make sure they have what they will use in the field. Once again from Chrysler/Ford contacts they commented about Advisory Board person from Orson E. Coe dealership (I believe) starting kids not trained on modern equipment.
17	More emphasis needs to be stressed on time management to these students. Being able to meet book times. Student should be able to meet or come closer to "book time" upon completion of course.
18	Quite effective as a starting point. Though I soon discovered that I didn't know everything like I thought I did. Just stay on top of all of the technological changes in autos. Your basic structure of the program is very good. I have recommended it many times over the years.
20	Good, more lab time less academic studies.
21	Very effective. No keep it the way it is.
22	As of 1986, course work was adequate. I cannot say, as I do not know the outline of today's curriculum.
23	Good, make sure the students study up on all new coating technologies.
24	It's hard to compare classroom to production repair so not really.
25	Updating, times have changed. People do not we sand entire cars anymore.
26	Very effective on the basics. More emphasis on how high volume repair shops are run. This would be good as a final semester addition.
27	All were applicable; I should have gone through the Heavy Duty program also.
28	Good, I am currently working with 2 recent graduates from the program and they are not completely prepared for this. QUALITY, QUALITY, QUALITY.
30	Not that effective. The course needs to be updated they teach a lot of things that are not used in the body shops of today. I say skip that stuff and spend the time on more up- to-date procedures.
31	The course work I received could have been more helpful. Much of the material was out dated and irrelevant to today's industry standards. The coursework could have extended beyond the basics. I feel that the curriculum should be adjusted to reflect newer technology and current repair methods. Gone are the days of lead repairs and gas welding. A brief overview of historical repair methods is a helpful but should not be emphasized. The collision repair industry is a constantly changing environment and the instructors need to be familiar with and proficient in conveying these changes.
33	It was very effective in teaching overall vehicle design. More equipment and more emphasis on

custom paint & possibly (kit-car & chopper kit building). These are very popular areas of the business now. They are also part of the most successful programs (WYOTECH, etc.)

QUESTION 10: How effective was your auto-body lab experience in preparing you for work?

Survey #	Explain:
1	It was alright but the teachers didn't seem to care about the quality of our work. Yes changes would be new shop with updated teacher and equipment.
2	Needed more pictures or examples, not just reading off an overhead and copying it down.
4	Very effective, keep updating classes to keep up with industries.
5	Very it taught the basics and also pressed the importance of the basic skills. More lab experience, more up to date skills. Paint less dent repair is a very helpful skill and up to date machines in the lab.
6	Very, hands-on work is not emphasized enough when engineering. Different paint systems should be tired, not just PPG, there are non-catalyzed paints that utilize paint methods
7	That was the most effective part of school.
8	Not, changes would be the Blackhawk system was obsolete in 1980. Chiet Ex Limer is and has been the standard of the industry for 30 years plus.
9	It was good practice, but not practical. Estimating should be covered and practice in more depth.
10	So, so need more hands on. Many changes need to be made!
12	In parts sales and crash experience was helpful.
13	It was good for the 1st job experience. The discipline of deadlines, time, etc has proved invaluable over the years.
14	Good information for time period.
15.	Minimal, but that was only due to job selling refinish paint. From what I hear from Chrysler/Ford contacts more modern equipment and techniques are needed.
16	Firmly effective, at the time, the program needed an up to date paint mixing system and a unibody measuring/pulling system an estimating systems.
17	Was capable at performing most jobs meet time allowed in order to make money was the issue. More emphasis on meeting time should be stressed.
19	I gained as much practical knowledge as one could expect to in the time frame involved.
20	Ok, provided the basics to start. More hands on and demonstrations.
21	Very good. A lot of hands experience is needed to be ready for outside work. The more hands on work the better. Maybe more emphasis on frame work.
22	If I went into the trade I would say it was effective. I was able to work on collision vehicles, others were not so lucky. They were forced to work on rust buckets.
23	Excellent, just stay current.

24	Quite effective, but slow compared to production repair.
25	50/50
26	Basics were good, but too slow paced. Not enough time pressure to perform. More welding skills including tig, plasma, cutting and aluminum welding.
27	Yes, however I'm sure it has changed over the years.
28	Good, the grads are more concerned with training hours.
30	Not that effective. They tried to teach the basics of everything, but they need to skip the old school stuff like leading & oxy welding. Spend more time on skinning a door. Witch we never did in class. That's a procedure used all the time.
31	The lab provided a good opportunity to introduce the students to materials, tools and situations that they will deal with on a daily basis in the automotive collision repair industry. I felt that it was very helpful in that it was a "learning friendly" environment. Such is not always the case out in the "real world" workforce.
33	The hands-on experience was priceless; I would not be as successful without the lab work. More options, better marketing and emphasis on some of the more popular areas of the industry. The program is out dated and needs a more youthful appearance.

QUESTION 11: Was the technological equipment used in your courses and service work up-to-date?

Survey #	**Explain:**
1	No, not at all.
2	For the most port, they needed new paint booths but the rest was good enough.
4	Some what; was going out of date with current field.
5	No, the frame rack and painting systems need updating. The frame rack is from the 80's how are you suppose to know how to use the newer systems. Help the students get PPG certified in painting. Make the rep come in and do it!
6	Expect frame and alignment equipment (1992-1994).
13	Hmm, that was awhile back. We did have some newer equipment, but we had a lot of older cars to work on as well, so it worked out.
15	Not the best but not that outdated for 1980.
17	At the time most was, I have no idea about what they have now.
21	I attended in 1989-91 and we did not have up to date frame equipment this has probably changed.
22	At the time it was.
24	Yes, for that time era.
25	More A/C work and maybe require some more suspension work. Alignments and mechanical work.
26	At the time it was, but would be out of date now.

27	Did not have this back then.
30	Yes, they had a good variety of equipment that was up to date but the instructors were afraid of it, because they didn't use it.
31	For the most part the equipment provided by the university was industry standard and up to date. The frame racks are current as are the paint mixing system and the downdraft spray booth. I do not however agree with the teaching of gas welding or lead repairs. These are methods that are not used in today's industry and have no place wasting valuable time in the classroom.
33	No! Most of the equipment was outdated. The auto service program had more of the new equipment. Updates would greatly help the program.

QUESTION 12: Are the computers you used and the computer skills you developed in the program useful on the job? Shark measuring system, PPG paint system.

Survey #	Explain:
1	The paint system was pretty good but the shark wasn't working for the first semester. I took 3 months for Mr. Key to be convinced we needed a new one!
2	The shark was useful & paint systems were useful. They were both good enough.
4	We did not have a shark measuring system upon graduation. I did enjoy working with PPG system.
5	Shark measuring, no because not every person got to use it plus its old and out of date. PPG system is nice and very helpful.
7	Did not learn computer skills (would have been nice).
13	Computers were a "pipe dream" when I attended.
14	Do not use any computers at the time.
15	Never had in 1977-1980.
16	We did not use computers when I graduated.
17	Didn't have either upon my completion of courses.
20	Computer skills were not offered in 1987. Paint systems used were current technology.
21	I do not see these currently, but they are very important to somebody going to work in a body shop.
22	None was in place when I attended.
23	Yes, PPG Touch mix has been provided to your program since I graduated.
24	No computers available at the time.
25	50/50
26	I have very little need to mix my own paint, always done by paint supplier. More need for basic pc skills like word and excel and using estimating systems and digital imaging programs.

27	Did not have this back then.
28	No computers in 1982.
30	Not a bit. No one ever showed me how to use the shark because the instructors didn't know how it worked. I could have used that info because the first place I worked after college had a shark. They had to train me how to use it. Now I wouldn't want to be without it. It makes work a lot easier.
31	The computer system used a very helpful in that 99% of today's repair facilities are equipped with such systems. Most insurance companies require a shop to have some form of electronic measuring system. The systems (both paint and frames) may be different from shop to shop, but the basics principle and theories behind them is what is important to explore with the students.
33	The thought process used/learned have helped with work related projects.

QUESTION 13: If you were to return to school for a Bachelor's degree, would you consider Ferris?

Survey #	Explain:
1	Currently working on Bachelor Degree because I wanted to.
2	Maybe, because this is the only place around to offer this program.
3	Yes, I continued at Ferris working towards my bachelor degree. I left Ferris before completing my degree. I am currently attending Oakland Community College to make up classes before returning to Ferris.
4	I have completed my Bachelor Degree in AHM.
5	Already have it in AHM. Yes, because it's the easiest way to a business degree.
6	: I received my Bachelor's degree in AHM from FSU and then design engineer degree through GMU/MTU.
7	Yes I would. Ferris has a very good reputation for Auto Body. I had a good time there.
8	No probably not, I suffer a traumatic brain injury with pituitary adenoma, herniated cervical disc at C4 & C5 and I am now a paranoid schizophrenic.
9	I did.
10	Have bachelor degree in business administration.
11	Finished AHM (Bachelor's) at Ferris immediately after Auto Body degree.
12	Bachelor received from Ferris AHM.
13	Yes/No, Ferris would be great. I have kept up with all the changed and toured the campus last summer. Geographically, it does not work for me at this time. Best in my heart it would be great.
14	Yes, found Ferris a good experience and for chosen field also liked campus and Big Rapids area.
16	I did in Automotive Technology.
17	I am short 5-6 classes of humanities for completing AHM Bachelor's degree. Classes that mean

	nothing to course are stressed let us pay for and attend what's needed for course. Human science has nothing to do with body work.
18	Yes
19	Yes, I liked the atmosphere.
20	Yes
21	Already have AHM degree.
22	I graduated with BS in AHM in 1988.
23	AHM Grad 1987. Ferris has provided me with the skill sets. I've needed throughout my career. Thank you! Johnny Bondo
24	?, It would be hard with a family.
25	I have already attained AHM in 2002.
27	Yes, I should have stayed longer taken business classes as well as AHT. I've pursued my business degree locally.
28	No, no future in auto body to make a real living financially.
29	Yes, but I have a BS degree. I'd like to know about any teaching jobs in auto management that could be opening up.
30	No, I don't feel they prepared me enough for the field. I think one of the best things you could do for this program is to have a semester for internship in a real world shop.
31	I already have. Automotive and Heavy Equipment Management Class of 2003.
32	Completed AHM program 1994 at Ferris State University. Completed MSM in 1999 at Indian Wesleyan University.
33	I already have Bachelor degree and some additional course work. AHEM graduate. I think it would be a shame if the program was dropped. It truly is a great program to take, to learn overall vehicle design elements. More updates and better equipment would help the program have a more youthful approach and would help to attract more students. The material and professors are outdated, likely causing to decrease of attendance/enrollment. Most schools that I have visited (since graduating) have custom paint, custom build (kit-car and motorcycles) and accelerated learning programs. Perhaps more attention to auto body and less to auto service could help or MAYBE some interaction between the two could help make both more successful. Perhaps a joint build of a kit car/chopper motorcycles to expose both sides to both educational disciplines. I have heard that kit car/motorcycle manufacturers support these types of programs. Just a thought to make Ferris more successful.

AUTO BODY PROGRAM RELATIVE TO YOUR WORK

Question: Please rate the relevance of the subject areas that you studied in the Auto Body Program to your work.

2005

	HIGHLY RELEVANT	RELEVANT	SOMEWHAT RELEVANT	NOT RELEVANT	**Total Responses**
Non-Structural Repair – Preparation	16	5	3	0	24
Panel Replacement & Alignment	16	6	1	1	24
Working with Trim & Hardware	13	6	5	1	25
Metal Straightening	15	5	4	1	25
Using Body Fillers	17	3	5	2	27
Refinishing – Safety & Environmental Practices	17	5	3	0	25
nderstanding Automotive Finishes & pplication	13	8	4	0	25
Structural Repair – Frame Unibody	16	4	2	2	24
Front Wheel Alignment	9	6	7	3	25
Estimating – Analyzing Damage	14	7	3	2	26

April 22, 2005

Dear Ferris State University Alumnus:

All the academic programs at Ferris State University are reviewed every five years. Part of the review process includes an Alumni Review.

The Ferris State University Automotive Body program faculty endeavors to provide you with a high quality two year automotive body degree. To be able to determine the effectiveness of our program and to meet your present and future needs, we need your assistance and input.

Your time and effort is greatly appreciated and is important to this process. If you have any questions please call Greg Key, Department Chair, Automotive Center at (231) 591-5981.

Sincerely,

Greg Key
Department Chair

GK/kam

Enclosure: Alumni Survey

Ferris State University
Automotive Body Program
Survey of Graduates

1. Where are you currently working?_____

   Address:_____

2. How long have you been employed there?_____

3. What is your present position/job title?_____

4. What was your starting salary? $_____

5. What is your present salary? $_____

6. Was it difficult to find a job when you graduated? Yes____ No____
   Explain:

   _____
   _____
   _____
   _____

7. Which phase of your on-campus education (courses, auto-body lab) was most valuable in preparing you for work?

   _____
   _____
   _____
   _____

8. Based upon your course work at Ferris, which of the ASE/Michigan certification areas were you able to obtain?

- ☐ PAINTING AND REFINISHING
- ☐ NON STRUCTURAL ANALYSIS & DAMAGE REPAIR
- ☐ STRUCTURAL ANALYSIS AND DAMAGE REPAIR
- ☐ MECHANICAL AND ELECTRICAL COMPONENTS
- ☐ DAMAGE ANALYSIS AND ESTIMATING

If not, please explain the area of concern.

_____

_____

9. How effective was your course work in preparing you for work?

_____

Should any changes be made?

_____

_____

_____

_____

10. How effective was your auto-body lab experience in preparing you for work?

_____

_____

Should any changes be made?

_____

_____

_____

_____

11. Was the technological equipment used in your courses and service work up to date?

_____

_____

12. Are the computers you used and the computer skills you developed in the program useful on the job? Shark measuring system, PPG paints system.

_____

_____

_____

_____

13. If you were to return to school for a Bachelor's degree, would you consider Ferris? _____

Please explain:

_____

_____

_____

_____

14. What year did you graduate from the Automotive Body Program? _____

AUTO BODY PROGRAM RELATIVE TO YOUR WORK

Question: Please rate the relevance of the subject areas that you studied in the Auto Body Program to your work.

2005

	HIGHLY RELEVANT	RELEVANT	SOMEWHAT RELEVANT	NOT RELEVANT
Non-Structural Repair – Preparation				
Panel Replacement & Alignment				
Working with Trim & Hardware				
Metal Straightening				
Using Body Fillers				
Refinishing – Safety & Environmental Practices				
Understanding Automotive Finishes & Application				
Structural Repair – Frame Unibody				
Front Wheel Alignment				
Estimating – Analyzing Damage				

SECTION 2.B

AUTOMOTIVE BODY PROGRAM

EMPLOYER FOLLOW-UP

Employer Follow-up Summary

Of the respondents, 54% owned or operated an independent shop; 33% were employed at a dealership body shop; and the balance were employed in a variety of positions with equipment companies, recycling organizations, suppliers/wholesalers, and body shop franchises.

65% of the respondents have hired auto body 2-year graduates.

Of the respondents, 82% said they were satisfied with the comprehensive technical level of the current program. 18% said the students possessed the knowledge, but needed more instruction in the areas of diagnosing damage and improving time management skills.

95% of those responding said they were interested in hiring graduates in the future. 71% of those said they potentially could hire 1-2 per year.

When asked about general education courses, respondents ranked English, Math, Computer Literacy, and Technical Writing as their top four most essential.

As far as wages go, respondents said 43% of the starting wages would be in the $21-25,000 range; 24% in the $15-20,000 range as well as the $26-30,000 range; and the remaining 10% would start over $30,000.

After five years, respondents said 43% of the wages would be over $50,000, followed by 30% between $43-50,000.

71% of the respondents consider ASE certification as necessary.

EMPLOYER FOLLOW-UP SURVEY RESULTS

Question 1: What types of service facility do you own/operate?

13	Independent Body Shop	
8	Dealer Body Shop	
2	Others	(1) Hazardous & Non-Hazardous Waster Service Equip and Disposal Recycling (2) Sales – Collision Equipment (3) Automotive Wholesaler of Supplies, Not a Body Shop
1	Franchises – Carstar	

Question 2: Have you hired any of our two-year graduates in the past years?

15	Yes
8	No

Questions 3: Are you satisfied with the comprehensive technical level of the current program format and the "Curriculum Guide Sheet"?

9	Yes	
2	No	(1)Basic knowledge is there, but hands on skill is lacking also the ability to diagnosis damage is poor. (2) Must be taught the very latest in techniques and time management.

18 of the employer's survey did not respond with yes or no, but some wrote the following comment, "I don't know or haven't seen the "curriculum guide sheet" or what the current program covers.

Question 4: Are you interested in continuing to hire these graduates in the future?

19	Yes
1	No
Comments:	As myself & assistant manager are both AHM Alumni, would continue to hire students from Auto Body and AHM program.

Question 5: How many graduates might you hire per year?

3	None	(1) This will vary on our business growth.
17	1 to 2	(1) Depends on demand. (2) I very little turn over.
0	3 to 4	
0	5 or more	
4	Did Not Respond	

Question 6: What type of work would they perform?

Survey #	
23	All
22	Auto Body Repair & Refinishing
21	Collision Repair
20	Body Collision & Painting
19	Start at bottom-wash boy.
18	Collision Repair
17	Collision Repair & Refinish
16	Auto Body Collision & Paint
15	Begin with light body-progress to heavy hits
14	Entry Level Body or Paint Work
13	Depends on Needs At Time
11	All Auto Body Repair & Refinishing
10	Estimating or Body Repair
8	Auto Body Repairs
7	Auto/Truck Body Repair & Paint
5	Sales & Service of Products to Collision Industry
4	Customer Service Representative
3	Entry Level Collision Repair
2	Body Repair or Paint
5	did not respond

Question 7: What technical courses do you consider to be essential?

17	Body Electrical & Air Conditioning
21	Structural Repair – Frame Unibody
20	Metal Straightening
20	Panel Replacement & Alignment
20	Refinishing – Safety & Environmental Practices
19	Using Body Fillers
17	Understanding Automotive Finishes & Application
16	Estimating – Analyzing Damage
16	Working With Trim & Hardware
15	Non-Structural Preparation
12	Front Wheel Alignment
6	Other

(1) Clearing and resetting systems fault codes, structural bonding.
(2) Computer Use
(3) Two years should have time to hit them all.
(4) There is going to be a real shortage of "hard hot" collision repairmen in a few years.
(5) Learning to work with deadlines.

1 did not respond

Question 8: What general education courses do you consider essential?

20	English
19	Math
18	Computer Literacy
12	Technical Writing
10	Speech

8 Physics
3 Psychology
3 History
3 Other (specify)
(1) Welding and Light Auto Mechanics.
(2) All can never have too much education.
(3) All education is important to make a well rounded educated person.

1 did not respond

Question 9: What would be the approximate yearly starting wage?

5 $15,000 to $20,000
9 $21,000 to $25,000
5 $26,000 to $30,000
2 Over $30,000

Question 10: What growth potential do you foresee for these graduates?

Survey #	
1	It's not as good as it was 10 years ago.
2	Huge
3	Very good if they possess the needed skills.
4	Branch or Market Management
5	Lots
6	Will become much more technical with the introduction of hybrids & fuel cell.
8	Good opportunity for aggressive worker.
9	immense
11	Unlimited: Depends on individual
13	If they are good. $50,000 go $100,000 Is Do Able!
14	This depends on their personal development.
15	If trained properly, there would be a great growth potential.
16	The sky is the limit.
17	The right person! Can earn in excess of 100k as their experience builds for career.
18	The Auto Body industry is facing major problems regarding wages and benefits. Because of the strangle hold the insurance companies have over it. They increasingly reduce hourly time and force technicians and managers to use substandard repair methods because of this I think it is not a good career choice for the 21st century.
19	Unlimited.
21	There is potential for a shortage of technicians in the next 10 years. I needed to hire a "heavy hit" technician and everyone who responded was in their fifties.
22	Develop into highly paid technician depending on quality & production.
23	The sky is the limit.

Question 11: What would you predict to be the earning level after 5 years?

3 $30,000 to $35,000
3 $36,000 to $42,000
7 $43,000 to $50,000
10 Over $50,000

2 did not respond

Question 12: How many of these graduates do you believe are necessary to fill the void in the market place?

Survey #	
1	Hard to say maybe 40-50%
2	These are a lot of strays looking for help.
3	This industry has more techs leaving then entering.
4	Several
5	Our industry will need many 50-100 per year for West Michigan alone.
7	Very few right now, yet many in 5-10 years.
9	Many
11	This field is open and should be flooded with graduates who are "willing to work"!
13	Business Area Driven, but good techs are needed.
15	I don't know exactly however I would think many.
16	As many as we can get.
18	A huge amount.
19	Good techs with good work ethics will all find jobs.
22	As many as possible depending on improving economy in West Michigan.

Question 13: Do you consider ASE certification necessary?

10	Yes
4	No
8	Did Not Respond

April 8, 2005

Dear Ferris State University Alumnus Employer:

All programs at Ferris State University are reviewed every five years. Part of the review process includes an Alumni Review.

The Ferris State University Automotive Body program faculty endeavors to provide you with a high quality two year automotive body degree. To be able to determine the effectiveness of our program and to meet your present and future needs, we need your assistance and input.

Your time and effort is greatly appreciated and is important to this process.

If you have any questions please call Greg Key, Department Chair, Automotive Center at (231) 591-5981. Thank you.

Sincerely,

Greg Key, Department Chair
Automotive Department

GK/km

Enclosure: Alumni Survey

Automotive Body Technician

Description: Students in the current automotive body program receive a comprehensive study of all ASE Collision Repair and Refinishing areas, and develop the necessary related diagnosing and servicing skills. With the completion of the general education requirements, a two-year A.A.S. degree is awarded. Graduates are prepared to enter the automotive body industry or may continue their education and earn a B.S. degree in FSU offerings such as Automotive and Heavy Equipment Management.

1. What types of service facility do you own/operate?

   - ☐ Dealer
   - ☐ Independent
   - ☐ Franchise
   - ☐ Other _____

2. Have you hired any of our two-year graduates in the past years?

   - ☐ Yes
   - ☐ No

3. Are you satisfied with the comprehensive technical level of the current program format and the "Curriculum Guide Sheet"?

   - ☐ Yes
   - ☐ No

   Comments: _____

   _____

4. Are you interested in continuing to hire these graduates in the future?

   - ☐ Yes
   - ☐ No

   Comments: _____

   _____

5. How many graduates might you hire per year?

   - ☐ None
   - ☐ 1 to 2
   - ☐ 3 to 4
   - ☐ 5 or more

6. What type of work would they perform? _____

7. What technical courses do you consider to be essential?

- ☐ Body Electrical & Air Conditioning
- ☐ Estimating – Analyzing Damage
- ☐ Front Wheel Alignment
- ☐ Metal Straightening
- ☐ Non-Structural Preparation
- ☐ Panel Replacement & Alignment
- ☐ Refinishing – Safety & Environmental Practices
- ☐ Structural Repair – Frame Unibody
- ☐ Understanding Automotive Finishes & Application
- ☐ Using Body Fillers
- ☐ Working With Trim & Hardware
- ☐ Other_____

8. What general education courses do you consider essential?

- ☐ English
- ☐ Speech
- ☐ Math
- ☐ Physics
- ☐ Psychology
- ☐ Computer Literacy
- ☐ History
- ☐ Technical Writing
- ☐ Other (specify)_____

9. What would be the approximate yearly starting wage?

- ☐ $15,000 to $20,000
- ☐ $21,000 to $25,000
- ☐ $26,000 to $30,000
- ☐ Over $30,000

10. What growth potential do you foresee for these graduates?_____
_____

11. What would you predict to be the earning level after 5 years?

- ☐ $30,000 to $35,000
- ☐ $36,000 to $42,000
- ☐ $43,000 to $50,000
- ☐ Over $50,000

12. How many of these graduates do you believe are necessary to fill the void in the market place? _____

13. Do you consider ASE certification necessary? _____

SECTION 2.D

AUTOMOTIVE BODY TECHNOLOGY

STUDENT SURVEY REPORT

SUTDENT EVALUATION OF PROGRAM

SURVEY REPORT FORMAT:

The student survey was given to 35 students; 11 freshman, 20 sophomores and 4 juniors. A brief overview of the survey area results will be covered. The survey was broken into three separate areas:

1. Professors
2. Instruction
3. Facilities/Equipment

PROFESSORS:

A majority of the survey responses fell in the average and excellent category, the average weighed a little more than the excellent by 17%. There was an equal amount of responses in the above average and below average categories, with a small amount in the unacceptable category.

Generally the students felt that their professors are knowledgeable, kind, courteous, organized and available for assistance.

INSTRUCTION:

Responses pertaining to curriculum and instruction were ranked from excellent to not applicable. However, most responses fell in the average and excellent category. The remaining responses were in the above average, below average and unacceptable categories.

Generally students are happy with the curriculum and instruction by rating 65% in the average, above average and excellent categories.

FACILITIES/EQUIPMENT TECHNOLOGY:

This portion covered: classroom condition, building condition and custodial services, maintenance of tools and tool availability. A majority of the students responded with average, above average or below average. The average category out weighed the above and below category by a small percentage. Custodial services had 35 of the 39 responses in the average level or higher.

Overall, the students are happy with the facilities and think that the custodial services are very good.

The area that students ranked the worst was the equipment technology up-to-date, 21 out of the 35 responses rated this in the below average and unacceptable category. This is something that the department could stand to improve on.

SUMMARY:

Overall, a majority of the students ranked the Automotive Body program as a good to excellent program, with 32% weighing heavily on average. The total percentages for the responses are as follows:

Category	Percentage	Number
A – Excellent	21%	218
B – Above Average	16%	171
C- Average	32%	332
D- Below Average	18%	183
E- Unacceptable	11%	117
F – Not Applicable	2%	18

EMPLOYER FOLLOW-UP SURVEY RESULTS
2005

KEY

A = Excellent
B = Above Average
C = Average
D = Below Average
E = Unacceptable
F = Not Applicable

YOUR PROFESSORS

	A	B	C	D	E	F
Are your professors kind, courteous and helpful to students?	9	6	16	2	2	0
Instructor's overall mastery of subject matter.	9	10	10	4	4	0
Professor's organization of course.	8	5	12	8	2	0
Professor's clarity of presentations.	10	3	7	11	5	0
Professor's stimulation of interest.	9	5	12	6	4	0
Professor's availability for assistance.	9	9	12	3	3	0
Professor's ability to advise on class schedules and other advisory duties.	11	3	13	6	2	1
Professor's impartiality on grades and exams.	7	8	13	6	2	0
Professor's concern for students.	9	4	11	10	3	0
Professor's punctuality.	13	9	13	1	0	0
Professor's professionalism in and out of class.	13	5	17	2	0	0
Overall quality of your professor's instruction.	9	6	12	7	2	0

YOUR INSTRUCTION

	A	B	C	D	E	F
Quality of the material presented in class.	11	5	10	4	5	0
Material presented meets up to date standards.	9	1	9	7	9	1
Equipment quality and condition.	5	2	6	10	12	1
Relevance of material presented.	8	6	8	8	4	1
Media used to present material, i.e., white boards, slides, video, overhead projectors, etc.	8	8	7	5	6	1
Difficulty of material in reference to the level of the course.	6	5	19	2	3	0
Completeness of material presented.	9	4	11	6	5	0
Depth of material presented.	8	9	12	5	3	1
Overall Quality of auto body lab.	7	4	10	6	6	2
Overall quality of instruction	9	5	9	9	3	0

FACILITIES & EQUIPMENT

	A	B	C	D	E	F
Classroom conditions.	5	7	14	5	4	0
Building/Facility overall conditions.	3	4	18	6	4	0
Custodial services.	5	16	14	3	1	0
Maintenance of equipment and tools.	3	9	8	10	4	2
Equipment technology up to date.	1	5	5	13	8	3
Tool and equipment availability.	2	5	13	9	5	2
Overall quality of facilities and equipment.	3	3	11	9	6	3

AUTOMOTIVE BODY WINTER 2005
STUDENT SURVEY

Please answer all of the following questions truthfully and to the best of your ability. If you feel the question does not apply to you, or a question that you do not have an opinion on, please check the N/A box.

The survey is intended to rate your major courses only. Do not rate related courses such as English, Math, History, Physics, etc.

Are you a (please check one):

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior

Please rate the following questions:

A = Excellent
B = Above Average
C = Average
D = Below Average
E = Unacceptable
F = N/A (not application)

YOUR PROFESSORS

		A	B	C	D	E	F
1.	Are your professors kind, courteous and helpful to students?	☐	☐	☐	☐	☐	☐
2.	Instructor's overall mastery of subject matter.	☐	☐	☐	☐	☐	☐
3.	Professor's organization of course.	☐	☐	☐	☐	☐	☐
4.	Professor's clarity of presentations.	☐	☐	☐	☐	☐	☐
5.	Professor's stimulation of interest.	☐	☐	☐	☐	☐	☐
6.	Professor's availability for assistance.	☐	☐	☐	☐	☐	☐
7.	Professor's ability to advise on class schedules and other advisory duties.	☐	☐	☐	☐	☐	☐
8.	Professor's impartiality on grades and exams.	☐	☐	☐	☐	☐	☐
9.	Professor's concern for students.	☐	☐	☐	☐	☐	☐
10.	Professor's punctuality.	☐	☐	☐	☐	☐	☐
11.	Professor's professionalism in and out of class.	☐	☐	☐	☐	☐	☐
12.	Overall quality of your professor's instruction.	☐	☐	☐	☐	☐	☐

YOUR INSTRUCTION

		A	B	C	D	E	F
1.	Quality of the material presented in class.	☐	☐	☐	☐	☐	☐
2.	Material presented meets up to date standards.	☐	☐	☐	☐	☐	☐
3.	Equipment quality and condition.	☐	☐	☐	☐	☐	☐
4.	Relevance of material presented.	☐	☐	☐	☐	☐	☐
5.	Media used to present material, i.e., white boards, slides, video, overhead projectors, etc.	☐	☐	☐	☐	☐	☐
6.	Difficulty of material in reference to the level of the course.	☐	☐	☐	☐	☐	☐
7.	Completeness of material presented.	☐	☐	☐	☐	☐	☐
8.	Depth of material presented.	☐	☐	☐	☐	☐	☐
9.	Overall quality of auto body lab.	☐	☐	☐	☐	☐	☐
10.	Overall quality of instruction.	☐	☐	☐	☐	☐	☐

FACILITIES AND EQUIPMENT

		A	B	C	D	E	F
1.	Classroom conditions.	☐	☐	☐	☐	☐	☐
2.	Building/Facility overall conditions.	☐	☐	☐	☐	☐	☐
3.	Custodial services.	☐	☐	☐	☐	☐	☐
4.	Maintenance of equipment and tools.	☐	☐	☐	☐	☐	☐
5.	Equipment technology up to date.	☐	☐	☐	☐	☐	☐
6.	Tool and equipment availability.	☐	☐	☐	☐	☐	☐
7.	Overall quality of facilities and equipment.	☐	☐	☐	☐	☐	☐

SECTION 2.E

AUTOMOTIVE BODY PROGRAM

FACULTY PERCEPTION OF PROGRAM

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

A	B	C	D	E	F	
		1	1			Participation in Development of College Occupational Education Program Plan
			1	1		Program Goals
				2		Course Objectives
		1	1			Competency Based Performance Objectives
	1	1				Use of Competency Based Objectives
	1		1			Use of Information on Labor Market Needs
			2			Use of Information on Job Performance Requirements
			1	1		Use of Profession/Industry Standards
		2				Use of Student Follow-up Information
				2		Adaptation of Instruction
			1	1		Relevance of Supportive Courses
		1	1			Coordination with Other Community Agencies and Educational Programs.
2						Provision for Work Experience, Cooperative Education or Clinical Experience.
				2		Program Availability and Accessibility
			1	1		Provision for the Disadvantage
		1			1	Provision for the Handicapped
		1		1		Efforts to Achieve Sex Equity
				2		Provision for Program Advisement
			1	1		Provision for Career Planning and Guidance
			1	1		Adequacy of Career Planning and Guidance
			1	1		Provision for Employability Information
		1	1			Placement Effectiveness for Students in this Program
	1	1				Student Follow-up System
	2					Promotion of this Occupational Program
			2			Provision for leadership and Coordination
			1	1		Qualifications of Administrators and/or Supervisors
				2		Instructional Staffing
				2		Qualifications of Instructional Staff
		1		1		Professional Development Opportunities
1					1	Use of Instructional Support Staff
			1	1		Use of Clerical Support Staff
			1	1		Adequacy and Availability of Instructional Equipment
			2			Maintenance and Safety of Instructional Equipment
		1		1		Adequacy of Instructional Facilities
			1	1		Scheduling of Instructional Facilities
		1	1			Adequacy and Availability of Instructional Materials and Supplies
			1	1		Adequacy and Availability of Learning Resources
		1		1		Use of Advisory Committees
	2					Provisions of Current Operating Budget
	2					Provisions in Capital Outlay Budget of Equipment

KEY

A= Poor
B= Below Expectations
C= Acceptable
D= Good
E= Excellent
F= Don't Know

PROE

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

	Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
GOALS AND OBJECTIVES								
1. Participation in Development of College Occupational Education Program Plan	1				X			
Excellent—Administrators and/or other supervisory personnel involved in developing and revising the college plan for this occupational program seek and respond to faculty, student and community input. *Poor*—Development of the plan for this program is basically the work of one or two persons in the college.								
2. Program Goals	2					X		
Excellent—Written goals for this program state realistic outcomes (such as planned enrollments, completions, placements) and are used as one measure of program effectiveness. *Poor*—No written goals exist for this program.								
3. Course Objectives	3				X			
Excellent—Written measurable objectives have been developed for all occupational courses in this program and are used to plan and organize instruction. *Poor*—No written objectives have been developed for courses in this program.								
4. Competency Based Performance Objectives	4			X				
Excellent—Competency based performance objectives are on file in writing, consistent with employment standards, and tell students what to expect and help faculty pace instruction. *Poor*—Competency based performance objectives have not been developed for courses in this program.								
5. Use of Competency Based Performance Objectives	5			X				
Excellent—Competency based performance objectives are distributed to students and used to assess student progress. *Poor*—Competency based performance objectives are not used with students for progress evaluation nor are students aware that they exist.								
6. Use of Information on Labor Market Needs	6				X			
Excellent—Current data on labor market needs and emerging trends in job openings are systematically used in developing and evaluating this program. *Poor*—Labor market data is not used in planning or evaluation.								
7. Use of Information on Job Performance Requirements	7				X			
Excellent—Current data on job performance requirements and trends are systematically used in developing and evaluating this program and content of its courses. *Poor*—Job performance requirements information has not been collected for use in planning and evaluating.								

PROE

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

	Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
GOALS AND OBJECTIVES (Continued)								
8. Use of Profession/Industry Standards *Excellent*—Profession/industry standards (such as licensing, certification, accreditation) are consistently used in planning and evaluating this program and content of its courses. *Poor*—Little or no recognition is given to specific profession/industry standards in planning and evaluating this program.	8				X			
9. Use of Student Follow-Up Information *Excellent*—Current follow-up data on completers and leavers (students with marketable skills) are consistently and systematically used in evaluating this program. *Poor*—Student follow-up information has not been collected for use in evaluating this program.	9			X				
PROCESSES								
10. Adaptation of Instruction *Excellent*—Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as small group or individualized instruction, laboratory or "hands on" experiences, open entry/open exit, credit by examination). *Poor*—Instructional approaches in this program do not consider individual student differences.	10					X		
11. Relevance of Supportive Courses *Excellent*—Applicable supportive courses (such as anatomy and physiology, technical communications, technical mathematics) are closely coordinated with this program and are kept relevant to program goals and current to the needs of students. *Poor*—Supportive course content reflects no planned approach to meeting needs of students in this program.	11				X			
12. Coordination with Other Community Agencies and Educational Programs. *Excellent*—Effective liaison is maintained with other programs and educational agencies and institutions (such as high schools, other community colleges, four year colleges, area vocational schools, proprietary schools, CETA) to assure a coordinated approach and to avoid duplication in meeting occupational needs of the area or community. *Poor*—College activities reflect a disinterest in coordination with other programs and agencies having impact on this program.	12			X				
13. Provision for Work Experience, Cooperative Education or Clinical Experience. *Excellent*—Ample opportunities are provided for related work experience, cooperative education, or clinical experience for students in this program. Student participation is well coordinated with classroom instruction and employer supervision. *Poor*—Few opportunities are provided in this program for related work experience, cooperative education, or clinical experience where such participation is feasible.	13	X						

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

PROCESSES (Continued)

14. Program Availability and Accessibility — 14

Excellent—Students and potential students desiring enrollment in this program are identified through recruitment activities, treated equally in enrollment selection, and not discouraged by unrealistic prerequisites. The program is readily available and accessible at convenient times and locations.

Poor—This program is not available or accessible to most students seeking enrollment. Discriminatory selection procedures are practiced.

					X		

15. Provision for the Disadvantaged — 15

Excellent—Support services are provided for disadvantaged (such as socioeconomic, cultural, linguistic, academic) students enrolled in this program. Services are coordinated with occupational instruction and results are assessed continuously.

Poor—No support services are provided for disadvantaged students enrolled in this program.

			X				

16. Provision for the Handicapped. — 16

Excellent—Support services are provided for handicapped (physical, mental, emotional, and other health impairing handicaps) students enrolled in this program. Facilities and equipment adaptations are made as needed. Services and facilities modifications are coordinated with occupational instruction and results are assessed continuously.

Poor—No support services or facilities and equipment modifications are available for handicapped students enrolled in this program.

			X				

17. Efforts to Achieve Sex Equity — 17

Excellent—Emphasis is given to eliminating sex bias and sex stereotyping in this program: staffing, student recruitment, program advisement, and career counseling; access to and acceptance in programs; selection of curricular materials; instruction; job development and placement.

Poor—Almost no attention is directed toward achieving sex equity in this program.

			X				

18. Provision for Program Advisement — 18

Excellent—Instructors or other qualified personnel advise students (day, evening, weekend) on program and course selection. Registration procedures facilitate course selection and sequencing.

Poor—Instructors make no provision for advising students on course and program selection.

					X		

19. Provision for Career Planning and Guidance — 19

Excellent—Day, evening, and weekend students in this program have ready access to career planning and guidance services.

Poor—Little or no provision is made for career planning and guidance services for students enrolled in this program.

					X		

PROE

1

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

PROCESSES (Continued)

20. Adequacy of Career Planning and Guidance — 20

Excellent—Instructors or other qualified personnel providing career planning and guidance services have current and relevant occupational knowledge and use a variety of resources (such as printed materials, audiovisuals, job observation) to meet individual student career objectives.

Poor—Career planning and guidance services are ineffective and staffed with personnel who have little occupational knowledge.

X (4)

21. Provision for Employability Information. — 21

Excellent—This program includes information which is valuable to students as employees (on such topics as employment opportunities and future potential, starting salary, benefits, responsibilities and rights).

Poor—Almost no emphasis is placed on providing information important to students as employees.

X (4)

22. Placement Effectiveness for Students in this Program — 22

Excellent—The college has an effectively functioning system for locating jobs and coordinating placement for students in this program.

Poor—The college has no system or an ineffective system for locating jobs and coordinating placement for occupational students enrolled in this program.

X (3)

23. Student Follow-up System — 23

Excellent—Success and failure of program leavers and completers are assessed through periodic follow-up studies. Information learned is made available to instructors, students, advisory committee members and others concerned (such as counselors) and is used to modify this program.

Poor—No effort is made to follow up former students of this program.

X (3)

24. Promotion of this Occupational Program — 24

Excellent—An active and organized effort is made to inform the public and its representatives (such as news media, legislators, board, business community) of the importance of providing effective and comprehensive occupational education and specific training for this occupation to gain community support.

Poor—There is no organized public information effort for this program.

X (2)

RESOURCES

25. Provision for Leadership and Coordination — 25

Excellent—Responsibility, authority, and accountability for this program are clearly identified and assigned. Administrative effectiveness is achieved in planning, managing, and evaluating this program.

Poor—There are no clearly defined lines of responsibility, authority, and accountability for this program.

X (4)

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

		Keypunch Instructions	1 Poor	2 Below Expectations	3 Acceptable	4 Good	5 Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
RESOURCES (Continued)									
26. Qualifications of Administrators and/or Supervisors *Excellent*—All persons responsible for directing and coordinating this program demonstrate a high level of administrative ability. They are knowledgeable in and committed to occupational education. *Poor*—Persons responsible for directing and coordinating this program have little administrative training, education, and experience.	26					X			
27. Instructional Staffing *Excellent*—Instructional staffing for this program is sufficient to permit optimum program effectiveness (such as through enabling instructors to meet individual student needs, providing liaison with advisory committees, and assisting with placement and follow-up activities). *Poor*—Staffing is inadequate to meet the needs of this program effectively.	27					X			
28. Qualifications of Instructional Staff *Excellent*—Instructors in this program have two or more years in relevant employment experience, have kept current in their field, and have developed and maintained a high level of teaching competence. *Poor*—Few instructors in this program have relevant employment experience or current competence in their field.	28					X			
29. Professional Development Opportunities *Excellent*—The college encourages and supports the continuing professional development of faculty through such opportunities as conference attendance, curriculum development, work experience. *Poor*—The college does not encourage or support professional development of faculty.	29			X					
30. Use of Instructional Support Staff *Excellent*—Paraprofessionals (such as aides, laboratory assistants) are used when appropriate to provide classroom help to students and to ensure maximum effectiveness of instructors in the program. *Poor*—Little use is made of instructional support staff in this program.	30		X						
31. Use of Clerical Support Staff *Excellent*—Office and clerical assistance is available to instructors in this program and used to ensure maximum effectiveness of instructors. *Poor*—Little or no office and clerical assistance is available to instructors; ineffective use is made of clerical support staff.	31					X			
32. Adequacy and Availability of Instructional Equipment. *Excellent*—Equipment used on or off campus for this program is current, representative of that used on jobs for which students are being trained, and in sufficient supply to meet the needs of students. *Poor*—Equipment for this program is outmoded and in insufficient quantity to support quality instruction.	32				X				

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

RESOURCES (Continued)

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		
33. Maintenance and Safety of Instructional Equipment *Excellent*—Equipment used for this program is operational, safe, and well maintained. *Poor*—Equipment used for this program is often not operable and is unsafe.	33				X			
34. Adequacy of Instructional Facilities *Excellent*—Instructional facilities (excluding equipment) meet the program objectives and student needs, are functional and provide maximum flexibility and safe working conditions. *Poor*—Facilities for this program generally are restrictive, disfunctional, or overcrowded.	34			X				
35. Scheduling of Instructional Facilities *Excellent*—Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction. *Poor*—Facilities and equipment for this program are significantly under- or over-scheduled.	35				X			
36. Adequacy and Availability of Instructional Materials and Supplies *Excellent*—Instructional materials and supplies are readily available and in sufficient quantity to support quality instruction. *Poor*—Materials and supplies in this program are limited in amount, generally outdated, and lack relevance to program and student needs.	36				X			
37. Adequacy and Availability of Learning Resources *Excellent*—Learning resources for this program are available and accessible to students, current and relevant to the occupation, and selected to avoid sex bias and stereotyping. *Poor*—Learning resources for this program are outdated, limited in quantity, and lack relevance to the occupation.	37				X			
38. Use of Advisory Committees *Excellent*—The advisory committee for this program is active and representative of the occupation. *Poor*—The advisory committee for this program is not representative of the occupation and rarely meets.	38					X		
39. Provisions in Current Operating Budget *Excellent*—Adequate funds are allocated in the college operating budget to support achievement of approved program objectives. Allocations are planned to consider instructor budget input. *Poor*—Funds provided are seriously inadequate in relation to approved objectives for this program.	39		X					
40. Provisions in Capital Outlay Budget for Equipment *Excellent*—Funds are allocated in a planned effort to provide for needed new equipment and for equipment replacement and repair, consistent with the objectives for this program and based on instructor input. *Poor*—Equipment needs in this program are almost totally unmet in the capital outlay budget.	40		X					

Automotive Body Technology

APRC 2005-2006

Section 2 of 2

PROE

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

GOALS AND OBJECTIVES

1. Participation in Development of College Occupational Education Program Plan — 1

Excellent—Administrators and/or other supervisory personnel involved in developing and revising the college plan for this occupational program seek and respond to faculty, student and community input.

Poor—Development of the plan for this program is basically the work of one or two persons in the college.

X

2. Program Goals — 2

Excellent—Written goals for this program state realistic outcomes (such as planned enrollments, completions, placements) and are used as one measure of program effectiveness.

Poor—No written goals exist for this program.

X

3. Course Objectives — 3

Excellent—Written measurable objectives have been developed for all occupational courses in this program and are used to plan and organize instruction.

Poor—No written objectives have been developed for courses in this program.

X

4. Competency Based Performance Objectives — 4

Excellent—Competency based performance objectives are on file in writing, consistent with employment standards, and tell students what to expect and help faculty pace instruction.

Poor—Competency based performance objectives have not been developed for courses in this program.

X

5. Use of Competency Based Performance Objectives — 5

Excellent—Competency based performance objectives are distributed to students and used to assess student progress.

Poor—Competency based performance objectives are not used with students for progress evaluation nor are students aware that they exist.

X

6. Use of Information on Labor Market Needs — 6

Excellent—Current data on labor market needs and emerging trends in job openings are systematically used in developing and evaluating this program.

Poor—Labor market data is not used in planning or evaluation.

X

7. Use of Information on Job Performance Requirements — 7

Excellent—Current data on job performance requirements and trends are systematically used in developing and evaluating this program and content of its courses.

Poor—Job performance requirements information has not been collected for use in planning and evaluating.

X

PROE

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions: Poor 1 | Below Expectations 2 | Acceptable 3 | Good 4 | Excellent 5 | Don't Know

COMMENTS (Please note explanatory remarks or needs for improvement)

GOALS AND OBJECTIVES (Continued)

8. Use of Profession/Industry Standards — 8

Excellent—Profession/industry standards (such as licensing, certification, accreditation) are consistently used in planning and evaluating this program and content of its courses.
Poor—Little or no recognition is given to specific profession/industry standards in planning and evaluating this program.

9. Use of Student Follow-Up Information — 9

Excellent—Current follow-up data on completers and leavers (students with marketable skills) are consistently and systematically used in evaluating this program.
Poor—Student follow-up information has not been collected for use in evaluating this program.

PROCESSES

10. Adaptation of Instruction — 10

Excellent—Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as small group or individualized instruction, laboratory or "hands on" experiences, open entry/open exit, credit by examination).
Poor—Instructional approaches in this program do not consider individual student differences.

11. Relevance of Supportive Courses — 11

Excellent—Applicable supportive courses (such as anatomy and physiology, technical communications, technical mathematics) are closely coordinated with this program and are kept relevant to program goals and current to the needs of students.
Poor—Supportive course content reflects no planned approach to meeting needs of students in this program.

12. Coordination with Other Community Agencies and Educational Programs. — 12

Excellent—Effective liaison is maintained with other programs and educational agencies and institutions (such as high schools, other community colleges, four year colleges, area vocational schools, proprietary schools, CETA) to assure a coordinated approach and to avoid duplication in meeting occupational needs of the area or community.
Poor—College activities reflect a disinterest in coordination with other programs and agencies having impact on this program.

13. Provision for Work Experience, Cooperative Education or Clinical Experience. — 13

Excellent—Ample opportunities are provided for related work experience, cooperative education, or clinical experience for students in this program. Student participation is well coordinated with classroom instruction and employer supervision.
Poor—Few opportunities are provided in this program for related work experience, cooperative education, or clinical experience where such participation is feasible.

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

PROCESSES (Continued)

14. Program Availability and Accessibility — 14

Excellent—Students and potential students desiring enrollment in this program are identified through recruitment activities, treated equally in enrollment selection, and not discouraged by unrealistic prerequisites. The program is readily available and accessible at convenient times and locations.

Poor—This program is not available or accessible to most students seeking enrollment. Discriminatory selection procedures are practiced.

X (5)

15. Provision for the Disadvantaged — 15

Excellent—Support services are provided for disadvantaged (such as socioeconomic, cultural, linguistic, academic) students enrolled in this program. Services are coordinated with occupational instruction and results are assessed continuously.

Poor—No support services are provided for disadvantaged students enrolled in this program.

X (4)

16. Provision for the Handicapped. — 16

Excellent—Support services are provided for handicapped (physical, mental, emotional, and other health impairing handicaps) students enrolled in this program. Facilities and equipment adaptations are made as needed. Services and facilities modifications are coordinated with occupational instruction and results are assessed continuously.

Poor—No support services or facilities and equipment modifications are available for handicapped students enrolled in this program.

X (Don't Know)

17. Efforts to Achieve Sex Equity — 17

Excellent—Emphasis is given to eliminating sex bias and sex stereotyping in this program: staffing, student recruitment, program advisement, and career counseling; access to and acceptance in programs; selection of curricular materials; instruction; job development and placement.

Poor—Almost no attention is directed toward achieving sex equity in this program.

X (5)

18. Provision for Program Advisement — 18

Excellent—Instructors or other qualified personnel advise students (day, evening, weekend) on program and course selection. Registration procedures facilitate course selection and sequencing.

Poor—Instructors make no provision for advising students on course and program selection.

X (5)

19. Provision for Career Planning and Guidance — 19

Excellent—Day, evening, and weekend students in this program have ready access to career planning and guidance services.

Poor—Little or no provision is made for career planning and guidance services for students enrolled in this program.

X (4)

PROE

1

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

		Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
			1	2	3	4	5		
PROCESSES (Continued)									
20. Adequacy of Career Planning and Guidance *Excellent*—Instructors or other qualified personnel providing career planning and guidance services have current and relevant occupational knowledge and use a variety of resources (such as printed materials, audiovisuals, job observation) to meet individual student career objectives. *Poor*—Career planning and guidance services are ineffective and staffed with personnel who have little occupational knowledge.	20					X			
21. Provision for Employability Information. *Excellent*—This program includes information which is valuable to students as employees (on such topics as employment opportunities and future potential, starting salary, benefits, responsibilities and rights). *Poor*—Almost no emphasis is placed on providing information important to students as employees.	21						X		
22. Placement Effectiveness for Students in this Program *Excellent*—The college has an effectively functioning system for locating jobs and coordinating placement for students in this program. *Poor*—The college has no system or an ineffective system for locating jobs and coordinating placement for occupational students enrolled in this program.	22				X				
23. Student Follow-up System *Excellent*—Success and failure of program leavers and completers are assessed through periodic follow-up studies. Information learned is made available to instructors, students, advisory committee members and others concerned (such as counselors) and is used to modify this program. *Poor*—No effort is made to follow up former students of this program.	23		X						
24. Promotion of this Occupational Program *Excellent*—An active and organized effort is made to inform the public and its representatives (such as news media, legislators, board, business community) of the importance of providing effective and comprehensive occupational education and specific training for this occupation to gain community support. *Poor*—There is no organized public information effort for this program.	24		X						
RESOURCES									
Provision for Leadership and Coordination *Excellent*—Responsibility, authority, and accountability for this program are clearly identified and assigned. Administrative effectiveness is achieved in planning, managing, and evaluating this program. *Poor*—There are no clearly defined lines of responsibility, authority, and accountability for this program.	25				X				

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

RESOURCES (Continued)

26. Qualifications of Administrators and/or Supervisors — 26

Excellent—All persons responsible for directing and coordinating this program demonstrate a high level of administrative ability. They are knowledgeable in and committed to occupational education.

Poor—Persons responsible for directing and coordinating this program have little administrative training, education, and experience.

X in 4

27. Instructional Staffing — 27

Excellent—Instructional staffing for this program is sufficient to permit optimum program effectiveness (such as through enabling instructors to meet individual student needs, providing liaison with advisory committees, and assisting with placement and follow-up activities).

Poor—Staffing is inadequate to meet the needs of this program effectively.

X in 5

28. Qualifications of Instructional Staff — 28

Excellent—Instructors in this program have two or more years in relevant employment experience, have kept current in their field, and have developed and maintained a high level of teaching competence.

Poor—Few instructors in this program have relevant employment experience or current competence in their field.

X in 5

29. Professional Development Opportunities — 29

Excellent—The college encourages and supports the continuing professional development of faculty through such opportunities as conference attendance, curriculum development, work experience.

Poor—The college does not encourage or support professional development of faculty.

X in 5

30. Use of Instructional Support Staff — 30

Excellent—Paraprofessionals (such as aides, laboratory assistants) are used when appropriate to provide classroom help to students and to ensure maximum effectiveness of instructors in the program.

Poor—Little use is made of instructional support staff in this program.

X in 6

31. Use of Clerical Support Staff — 31

Excellent—Office and clerical assistance is available to instructors in this program and used to ensure maximum effectiveness of instructors.

Poor—Little or no office and clerical assistance is available to instructors; ineffective use is made of clerical support staff.

X in 3

32. Adequacy and Availability of Instructional Equipment. — 32

Excellent—Equipment used on or off campus for this program is current, representative of that used on jobs for which students are being trained, and in sufficient supply to meet the needs of students.

Poor—Equipment for this program is outmoded and in insufficient quantity to support quality instruction.

X in 4

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

RESOURCES (Continued)

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

33. Maintenance and Safety of Instructional Equipment — 33

Excellent—Equipment used for this program is operational, safe, and well maintained.
Poor—Equipment used for this program is often not operable and is unsafe.

X in 4

34. Adequacy of Instructional Facilities — 34

Excellent—Instructional facilities (excluding equipment) meet the program objectives and student needs, are functional and provide maximum flexibility and safe working conditions.
Poor—Facilities for this program generally are restrictive, disfunctional, or overcrowded.

X in 5

35. Scheduling of Instructional Facilities — 35

Excellent—Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction.
Poor—Facilities and equipment for this program are significantly under- or over-scheduled.

X in 5

36. Adequacy and Availability of Instructional Materials and Supplies — 36

Excellent—Instructional materials and supplies are readily available and in sufficient quantity to support quality instruction.
Poor—Materials and supplies in this program are limited in amount, generally outdated, and lack relevance to program and student needs.

X in 3

37. Adequacy and Availability of Learning Resources — 37

Excellent—Learning resources for this program are available and accessible to students, current and relevant to the occupation, and selected to avoid sex bias and stereotyping.
Poor—Learning resources for this program are outdated, limited in quantity, and lack relevance to the occupation.

X in 4

38. Use of Advisory Committees — 38

Excellent—The advisory committee for this program is active and representative of the occupation.
Poor—The advisory committee for this program is not representative of the occupation and rarely meets.

X in 2

39. Provisions in Current Operating Budget — 39

Excellent—Adequate funds are allocated in the college operating budget to support achievement of approved program objectives. Allocations are planned to consider instructor budget input.
Poor—Funds provided are seriously inadequate in relation to approved objectives for this program.

X in 1

40. Provisions in Capital Outlay Budget for Equipment — 40

Excellent—Funds are allocated in a planned effort to provide for needed new equipment and for equipment replacement and repair, consistent with the objectives for this program and based on instructor input.
Poor—Equipment needs in this program are almost totally unmet in the capital outlay budget.

X in 1

SECTION 2.F

AUTOMOTIVE BODY PROGRAM

ADVISORY COMMITTEE SUMMARY OF SURVEY

ADVISORY COMMITTEE SUMMARY OF SURVEY

1) The majority, 4 out of 7 advisory members, believe that the committee meets often enough, with 3 of the 7 being neutral.

2) The majority, 4 out of 7 advisory committee members felt the students are receiving adequate job application experience.

3) 5 out of 7 advisors believe that our graduates have good job opportunities in the Auto Body Industry.

4) Our advisory committee comes from the Auto Body Industry and is familiar with the needs and requirements for a student to be successful.

5) The committee members feel there should be some improvements in building maintenance and equipment. Instructors need to be updated on new technology.

6) Auto body instructors do review their classes and update as needed but need more support from industry.

7) Committee members were unsure if their input causes any change.

8) See Above.

9) The advisory committee continues to believe that the long term employment for our graduates is extensive.

10) See individual comments for this question.

ADVISORY COMMITTEE SURVEY RESPONSES

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Question 1: Advisory committee meets often enough	3	1	2	0	0
Question 2: Provides students with practical job application experience	0	0	4	1	1
Question 3: Employment Prospects for Auto Body Graduates Are Favorable Upon Completion of the program.	1	1	3	2	0
Question 4: Advisory committee members are knowledgeable about the Auto Body program.	4	2	0	0	0
Question 5: Instructional equipment used is current and representative of what graduates will use on the job.	0	1	2	2	1
Question 6: Classes are reviewed and revised to keep current with changing job practices and technology.	0	0	3	2	1
Question 7: Advisory committee is adequately utilized by the program.	0	0	2	4	0
Question 8: Suggestion form the advisory committee are encouraged and adopted by the program.	1	2	2	1	0
Question 9: Long term employment prospects remain extensive.	0	3	0	0	0
Question 10: From your prospective, what are the major strengths and weaknesses of the Auto Body program at Ferris State University?	0	0	2	0	0

Question 1

Survey #	Advisory Comments:
1	Advisory board meets often enough.
5	Twice a year is plenty.

Question 2

1	Need some TLC
3	They need more experience on door skin and/or panel replacements.
5	Some of the procedures are great but need equipment upgrades along with new procedures.

Question 3

1	Current climate makes it a little together
5	The body program sometimes helps but moving to AHEM is strongly recommended.

Question 4

1	Seems to typically be a good mix, would suggest possibly rotating out.
5	They have knowledge but need to learn new repair procedures.

Question 5

1	There needs to be maintenance and a mild upgrade of building. A lot of small items need to be installed i.e.: paint job, real out hose, lites, etc.
3	The staff needs to stay updated on new technology.
5	You have a lot of basic equipment but need to evolve to more advanced equip used in the field.

Question 6

6	They try to make material current but need more industry support.

Question 7

1	I'm unsure if advisory committee causes change.
5	Not sure
6	I think there should be more communication of committee members in between committee meetings.

Question 8

1	See above
5	Encouraged but don't know if implemented.

Question 9

1	There is always room for good techs that will make a good living.

Question 10

1	It once renowned auto body school. For what ever reasons, it seems to have slipped especially in eyes of student. This is a concern because they are your best recruiters if they are satisfied.
3	I feel they have the equipment and supplies for the students but the students need more one on one and guidance.
4	Need a clean environment, newer equipment, more structured lecture and enforcement of work ethics in labs.
5	Strengths include a dedicated professor but needs the support of the industry to develop the program.
6	Strength: good reputation, adequate equipment. Weakness: burned out, an apathetic instructor, bad attitudes affects student behavior.
7	Curriculum not current-update equipment. No change in program for many years.

April 14, 2005

Dear Automotive Body Advisory Committee Member:

All programs at Ferris State University are reviewed every five years. We are in the process of that review at this time for the Automotive Body program. Your responses and comments are important for the continued success and enhancement of this program. Please complete and return this survey. Your continued support of the Automotive Body program at Ferris State University is very much appreciated. If you have any questions please call Greg Key, Department Chair, Automotive Center at (231) 591-5981. Each questions has five boxes next to it numbered one through five, one is if you strongly agree, three is neutral and five is strongly disagree.

		1	2	3	4	5
1.	The Advisory Committee meets often enough.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
2.	The Automotive Body Program provides students with practical job application experience.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
3.	The employment prospects for Automotive Body graduates are favorable upon completion of the program.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
4.	The Advisory Committee members are knowledgeable about the Automotive Body program.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
5.	The instructional equipment used is current and representative of what graduates will use on the job.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
6.	Classes are reviewed and revised to keep current with changing job practices and technology.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
7	The Advisory Committee is adequately	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
8.	Suggestions from the Advisory Committee are encourage and adopted by the program.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
9.	Long term employment prospects remain extensive.	☐	☐	☐	☐	☐

Comments: _____

		1	2	3	4	5
10.	From your perspective, what are the major strengths and weaknesses of the Automotive Body program at Ferris State University?	☐	☐	☐	☐	☐

Comments: _____

SECTION 3.A

AUTOMOTIVE BODY PROGRAM

PROFILE OF STUDENTS

FERRIS STATE UNIVERSITY
College of Technology

TO: Vic Fowler, Chair, ABOD APR Program Review Panel

FROM: Interim Dean C. Matrosic

SUBJECT: Academic Program Review, AAS Auto Body

DATE: July 29, 2005

I am aware of your work as chair of the Academic Program Review (APR) Program Review Panel (PRP). I am also aware of the guidelines recently published that require the PRP to solicit input from the Dean and to involve the Dean throughout the process of developing and writing the PRP report. Those guidelines also ask that the report be "forward looking." Within the spirit and intent of the APR guidelines I am sending this memo to you for consideration by the PRP, since my retirement will not allow me to be part of that process from this point on. By copy of this memo I am asking Interim Dean Tom Oldfield follow-up with the PRP.

The AAS Auto Body (ABOD) has much to be proud of, and needs to build on its strengths. However, I have some specific concerns that I feel must be addressed in light of the data the PRP generates and analyzes as they prepare the PRP report. Specifically:

1. The ABOD program has no entry requirements beyond the basic university standards. The program requires the basic General Education requirement for MATH 110 competency without including MATH 110 as a curriculum requirement. For those students that do not meet this requirement, this makes MATH 110 a required course. More serious however is the fact that PHYS 130, a course required in the first semester freshman year, has a prerequisite of MATH 110 or a 19 ACT. While I have not done a detailed analysis of the entering freshmen, I suspect that a significant number do not meet the prerequisites to take PHYS 130.

2. Should an AAS ABOD graduate choose to ladder into the BS Automotive and Heavy Equipment Management (AHEM), he/she is disadvantaged because the AAS ABOD does not have MATH 115 in its curriculum, and MATH 115 is a BS AHEM graduation requirement not listed on that program's checksheet (an issue for the department to consider separately).

3. AAS ABOD enrollments have been relatively flat the past nine years, averaging 42 students total (freshmen and sophomores) with a high of 50 and a low of 34. However, attrition is high and enrollment seems to be on average made up of 60%-70% freshmen and 30%-40% sophomores. This is reflected in ABOD 2XX

course enrollments and program AAS graduation rates averaging about 11 students per year over the past nine years.

4. With the university progressively increasing admissions requirements, I sense that many of your presently admitted students would not be admissible to Ferris State University in Fall 2006, when the university requirement moves to a HS GPA of 2.5 and an ACT composite of 17. Unless the program can attract better prepared students, enrollment will drop due to this factor and the hidden MATH requirements discussed in paragraph 1 above. The Automotive Department Chair has shared with me some data indicating that of freshmen students enrolled in the AAS ABOD over the past four fall semesters, as many as 50% would be denied admission in Fall 2006 due to these two factors.

5. While I do not have at hand any data as to graduate job placement rates, this must be part of the PRP analysis.

All of the above issues cause me concern and may have a direct impact on the future of the AAS ABOD program. The continued allocation of faculty, S&E and other funding, and physical resources are serious issues that must be faced as part of the APR process.

cc: T. Oldfield
G. Key
D. Haneline

Auto Body Program

While the Auto Body Program enrollment is at around 38 on average over a ten year history from 1995 to Fall 04. In the fall the of 04 and 03 the number of students for the first week enrollment was at 48. However, at the end of the first year the number of freshman dropped from 25 to 12 and the total number of students dropped from 48 to 32. While bringing in 25 to 30 new students if we loose 50% of them that will leave 12 to 15 plus the 12 freshman becoming sophomores for a total of 25 to 27 students for next year. While their percentage of graduations rates are not the worst, their raw numbers are very low and unable to sustain a program.

We will only be able to graduate all 12 of the sophomores with out any attrition rate for the second year students. The program has had on average 11 graduates per year for the last ten year. With only 11 sophomores students all of the classes in the second year are very non productive.

MATH

The Auto Body program has **no entrance requirements.** However, the program does have a hidden requirement of math 110 or an ACT of 19. As you can see on the Auto Body Check sheet they have PHYS 130 as their first semester freshman class which has the prerequisite of a math ACT of 19. This means that no student should be allow to start the program without a math ACT of 19. When the program removes the hidden prerequisite or places math 110 in the check sheet or a 19 ACT as an entrance requirement one of two things will happen. First, if the prerequisite of an ACT of 19 in math were to be placed as an entrance requirement the number of students starting the program would be so low (5 ftes) we would not have a program. Furthermore, we can not have pre techs in auto body program because there are no courses for them to take. This is caused by the curriculum structure which would cause a student to wait a full year. Having the students wait a year will have the effect of losing even more students. No matter what we do with the math requirement the fact remains that the auto body program brings in students that are below the university standards for math success.

Automotive and Heavy Equipment Management program also has no math listed on their check sheet. Another hidden math requirement for the auto body students to overcome if they go on to the BS degree. The BS degree will have to make math 115 an entrance requirement or place it in their check sheet. If they make it a requirement to enter their BS program then the auto body students would have to take a year of math two courses that are not in any check sheet. With students on the low end of the ACT in math it is unrealistic to expect them to perform at a higher standard by taking extra classes that are not in a check sheet.

INCREASING UNIVERSITY STANDARDS

With the University raising its standards over the next couple of years this will have an effect on the number of students that will be able to enroll into the Auto Body program. Looking at two sources of data Kristen Salomonson University data and the most recent four years of students. Looking at the university data from salomonson high school GPA we will lose 5 ftes in fall 06. However, the entrance requirements affect all incoming students. If you look at all of the students not just the ftes over the last three years you will find
That 9/27, 11/35, 4/32 would not be able to meet the entrance requirements of comp 17 and 2.5 gpa for fall 06

Math	Fall 02	Fall 03	Fall 04	Fall 05
	14/30	11/27	15/35	15/32
HS GPA < 2.5	3/30	4/27	4/35	4/32
Comp	Fall 02	Fall 03	Fall 04	Fall 05
	6/30	9/27	11/35	4/32
Total Lost/year	16/30	16/27	17/35	16/32

This is the results of the 2006 entrance requirements. . When you look at the comp scores, the math scores, and the high school GPA data of the incoming students of the auto body program its clear that the program can not have enough students to have a viable program. There is no difference between the new standards and now. The graduate numbers (11) show the lack of academic preparation of the incoming students. The university courses all ready have their academic standards in math, English which shows up in only graduating 11 students on average. The only difference when these standards are implemented is that we will loose money from students that we are all ready not graduating. The students are coming for the first semester and then they drop out. When the 2006 requirements start means that we will start a program with 10-15 students and run all the courses below half full with out any drop out ratio. Including a

drop out ratio and the fall 2006 standards there is no way to run an academic program with so few a students. While the university continues to raises its standards to become a university there are programs that do not fit in a university setting. Clearly the auto body program attracts students that do not fit into the academic setting of a university. With the 2008 entrance requirements the losses will increase.

2008 UNIVERSITY STANDARDS

This is all of the students on the quottec screen in SIS for four years. This is number of students that have applied. This is the largest number possible. Many of these students do not come to ferris.

Number of students that meet the standards verses the number applied to the program.

Fall 2002	Fall 2003	Fall 2004	Fall 2005	AVG
3/30	20/27	19/30	25/32	16.75

Math	Fall 02	Fall 03	Fall 04	Fall 05	AVG
	16/30	16/27	20/35	17/32	17.25

Remember the math requirement is in place for graduation not for entrance. When you only start 16 to 17 that have the academic ability to do the math or other course work there is no wonder that we only graduate 11 students on average. When the starting numbers are 16 there is no way to run classes for two years with any percentage of drop out ratio.

The real question becomes if we keep a trade type program?

Do we keep supporting a two year degree when all of the two year programs in the auto department have lost enrollment over the past 15 years?

Do we keep a program that has no potential for growth?

Do we keep a program with the only future is losing number of students based on the lower abilities of the students that apply to that type of program?

Do we keep using university resources on a program when the program can't be fixed?

SECTION 3.A.1

AUTOMOTIVE BODY PROGRAM

PROGRAM PROFILE OF STUDENTS

Ferris State University
APR 00-3 Enrollment by Residency, Age, FSU GPA, and ACT
TEC
Automotive Body

Student Enrollment

	Residency				Age	FSU GPA			ACT		
Term	Blank	Midwest Compact	Non-Resident	Resident	Avg. Age	Avg. GPA	Min. GPA	Max. GPA	Avg. ACT	Min. ACT	Max. ACT
2000F	0	1	0	36	19.6	2.717	1.394	3.941	17.5	12	29
2001F	0	1	1	32	19.3	2.403	1.663	3.356	16.9	12	23
2002F	0	0	0	40	20.3	2.603	1.73	3.51	18.5	12	28
2003F	0	1	0	46	19.9	2.589	1.694	3.606	19.4	14	29
2004F	0	1	0	47	20.5	2.605	1.535	3.53	18.6	15	29

Stat Date: 12-20-2003 / 12-18-2004

TOTALS BY MAJOR IN COLLEGE

ON CAMPUS

Winter 2004 and **Winter 2005**

Major: *Automotive Body*

Major Code: *ABOD*

	Winter 2004						Winter 2005					
College: TEC	FR	TA	RA	SUB	CON	TOT	FR	TA	RA	SUB	CON	TOT
Apps	4	1	1	6	42	48	3	2	0	5	42	47
Pending In Progress	0	0	0	0		0	0	0	0	0		0
Pending Complete	0	0	0	0		0	0	0	0	0		0
Pending Incomplete	3	1	0	4		4	2	2	0	4		4
Pending Cancelled	1	0	0	1		1	0	0	0	0		0
Pending Total	4	1	0	5		5	2	2	0	4		4
Admission Decisions	0	0	1	1	42	43	1	0	0	1	42	43
Less Rejections	0	0	0	0		0	1	0	0	1		1
Offers (Accepted)	0	0	1	1	42	43	0	0	0	0	42	42
Students Cancelled	0	0	0	0		0	0	0	0	0		0
University Cancelled	0	0	0	0		0	0	0	0	0		0
Total Cancelled	0	0	0	0		0	0	0	0	0		0
Net Accepted	0	0	1	1	42	43	0	0	0	0	42	42
Less Nonscheduled	0	0	1	1		1	0	0	0	0		0
Less Other Exit	0	0	0	0		0	0	0	0	0		0
Enrolled	0	0	0	0	42	42	0	0	0	0	42	42
Difference in Enrolled Students	---------->						0	0	0	0	0	0
Final Enrolled	0	0	1	1	40	41						

Ferris State University

APR 00-04 Enrollment by Sex and Ethnicity

TEC

Automotive Body

Student Enrollment

		Sex		Ethnicity							Enrollment	
Term	Enrolled	Male	Female	Blank	Black	Hispanic	Indian/ Alaskan	Asian/Pac Islander	White	Foreign	Full-Time	Part-Time
2000F	37	35	2	0	3	0	0	0	34	0	37	0
2001F	34	31	3	2	2	0	0	0	29	1	34	0
2002F	40	40	0	4	2	0	0	0	34	0	39	1
2003F	47	44	3	6	1	0	0	0	40	0	45	2
2004F	48	46	2	4	3	0	0	1	40	0	43	5

Source:
Institutional Research and Testing
2/9/2005

Ferris State University
Administrative Program Review 2004
College of Technology
Automotive Body AAS

Student Enrollment

	Fall 2000			Fall 2001			Fall 2002			Fall 2003			Fall 2004		
	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total
Freshman Headcount	21		21	18		18	23		23	24		24	20		20
Freshman SCH's	328		328	285		285	379		379	400		400	322		322
Sophomore Headcount	12		12	14		14	13		13	17		17	22		22
Sophomore SCH's	182		182	227		227	207		207	255		255	310		310
Junior Headcount	3		3	2		2	3		3	5		5	5		5
Junior SCH's	42		42	32		32	39		39	75		75	76		76
Senior Headcount	1		1			0	1		1	1		1	1		1
Senior SCH's	14		14			0	13		13	10		10	12		12
TOTAL HEADCOUNT	37		37	34		34	40		40	47		47	48		48
TOTAL SCH's	566		566	544		544	638		638	740		740	720		720

Graduates

	Academic Yr 99/00			Academic Yr 00/01			Academic Yr 01/02			Academic Yr 02/03			Academic Yr 03/04		
	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total
Number of Graduates	15		15	11		11	9		9	7		7	18		18

Source: 7th/4th Day Counts
Institutional Research and Testing
1/26/2005

2002/2003 Graduate Follow-Up Survey Summary

College: Technology

Program Name	Degree	# of Grads	% Response	# Responses	Placement Rate	# Job &/or CE	# CE Only	Ave Salary
Architectural Technology	AAS	25	28%	7	100%	7	1	$ 28,573
Automotive and Heavy Equipment Management	BS	34	24%	8	100%	8	0	$ 36,950
Automotive Body	AAS	7	71%	5	100%	5	1	$ -
Automotive Engineering Technology	BS	7	29%	2	0%	2	0	$ -
Automotive Service Technology	AAS	76	55%	42	98%	41	0	$ 34,800
Building Construction Technology	AAS	31	35%	11	100%	11	1	$ 33,100
CAD Drafting & Tool Design Technology	AAS	14	14%	2	100%	2	1	$ -
Civil Engineering Technology	AAS	9	44%	4	75%	3	1	$ -
Computer Networks and Systems	BS	11	18%	2	100%	2	0	$ -
Construction Management	BS	59	49%	29	97%	28	3	$ 46,200
Electrical/Electronics Engineering Technology	BS	13	23%	3	100%	3	0	$ -
Facilities Management	BS	15	53%	8	100%	8	0	$ 31,466
Heavy Equip Service Engineering Technology	BS	18	78%	14	93%	13	1	$ 48,346
Heavy Equipment Technology	AAS	41	59%	24	96%	23	1	$ 37,993
HVACR Engineering Technology	BS	30	67%	20	100%	20	1	$ 47,250
HVACR Technology	AAS	27	85%	23	100%	23	2	$ 36,621
Industrial Electronics Technology	AAS	9	11%	1	100%	1	0	$ -
Manufacturing Engineering Technology	BS	40	48%	19	100%	19	2	$ 54,100
Manufacturing Tooling Technology	AAS	12	50%	6	100%	6	0	$ -
Mechanical Engineering Technology	AAS	21	81%	17	100%	17	1	$ 34,775
New Media Printing and Publishing	BS	5	40%	2	100%	2	0	$ -
Plastics Engineering Technology	BS	46	70%	32	97%	31	0	$ 51,200
Plastics Technology	AAS	49	63%	31	100%	31	3	$ 46,004
Printing and Digital Graphic Imaging Technology	AAS	15	87%	13	92%	12	2	$ 26,437
Printing Management	BS	12	42%	5	80%	4	1	$ -
Product Design Engineering Technology	BS	35	34%	12	92%	11	1	$ 50,940
Quality Engineering Technology	BS	3	33%	1	0%	1	0	$ -
Rubber Engineering Technology	BS	21	86%	18	100%	18	1	$ 41,520
Rubber Technology	AAS	14	79%	11	100%	11	1	$ 38,908
Surveying Engineering	BS	22	23%	5	100%	5	0	$ -
Surveying Technology	AAS	2	50%	1	100%	1	0	$ -
Welding Engineering Technology	BS	16	81%	13	100%	13	0	$ 53,835
Welding Technology	AAS	19	84%	16	100%	16	1	$ 46,294
College of Technology Total		**758**	**53.7%**	**407**	**98%**	**398**	**26**	
Ferris State University Total		**2276**	**59.3%**	**1032**	**97.8%**	**1009**		

AUTOMOTIVE 2004 FA STUDENTS
HIGH SCHOOL GRADE AVERAGES
FREQUENCIES & PERCENTS

		Major						Total	
		ABOD		AUSV		PAUS			
		Count	Column %	Count	Column %	Count	Column %	Count	Column %
HSGPA range	2.00 to 2.24	2	15%	4	5%	1	6%	7	6%
	2.25 to 2.49	3	23%	10	13%	5	28%	18	16%
	2.50 to 2.74	4	31%	18	23%	5	28%	27	25%
	2.75 to 2.99	2	15%	16	20%	4	22%	22	20%
	3.00 to 3.24	2	15%	10	13%	1	6%	13	12%
	3.25 to 3.49			7	9%	2	11%	9	8%
	3.50 to 3.74			6	8%			6	5%
	3.75 to high			8	10%			8	7%
Total		13	100%	79	100%	18	100%	110	100%

MEANS & STANDARD DEVIATIONS

HSGPA

	Major			
	ABOD	AUSV	PAUS	Total
Mean	2.5900	2.9770	2.6939	2.8849
N	13	79	18	110
Std. Deviation	.32596	.59406	.34843	.55291

AUTOMOTIVE 2004 FA STUDENTS
ACT COMPOSITE SCORES
FREQUENCIES & PERCENTS

		Major						Total	
		ABOD		AUSV		PAUS			
		Count	Column %	Count	Column %	Count	Column %	Count	Column %
ACT Composite	13			1	1%			1	1%
	15	2	14%			1	6%	3	3%
	16	2	14%	3	4%	3	18%	8	7%
	17	2	14%	9	12%	2	12%	13	12%
	18	4	29%	5	6%	1	6%	10	9%
	19			10	13%	2	12%	12	11%
	20			10	13%	2	12%	12	11%
	21	1	7%	10	13%	1	6%	12	11%
	22	2	14%	11	14%	1	6%	14	13%
	23			4	5%			4	4%
	24			6	8%			6	6%
	25	1	7%	4	5%	2	12%	7	6%
	26			1	1%			1	1%
	27			2	3%			2	2%
	28					1	6%	1	1%
	29					1	6%	1	1%
	33			1	1%			1	1%
Total		14	100%	77	100%	17	100%	108	100%

MEANS & STANDARD DEVIATIONS

ACT Composite

	Major			
	ABOD	AUSV	PAUS	Total
Mean	18.43	20.71	20.18	20.33
N	14	77	17	108
Std. Deviation	2.980	3.158	4.305	3.393

AUTOMOTIVE 2004 FA STUDENTS
ACT MATHEMATICS SCORES
FREQUENCIES & PERCENTS

		Major						Total	
		ABOD		AUSV		PAUS			
		Count	Column %	Count	Column %	Count	Column %	Count	Column %
ACT Math	14					1	6%	1	1%
	15	2	14%	1	1%	1	6%	4	4%
	16	4	29%	7	9%	1	6%	12	11%
	17	2	14%	7	9%	3	18%	12	11%
	18	1	7%	6	8%	2	12%	9	8%
	19	2	14%	7	9%	2	12%	11	10%
	20			7	9%			7	6%
	21			5	6%	1	6%	6	6%
	22	1	7%	7	9%	1	6%	9	8%
	23	2	14%	9	12%	1	6%	12	11%
	24			7	9%			7	6%
	25			3	4%	1	6%	4	4%
	26			5	6%	1	6%	6	6%
	27			2	3%			2	2%
	28			3	4%	2	12%	5	5%
	34			1	1%			1	1%
Total		14	100%	77	100%	17	100%	108	100%

MEANS & STANDARD DEVIATIONS

ACT Math

	Major			
	ABOD	AUSV	PAUS	Total
Mean	18.00	21.27	20.18	20.68
N	14	77	17	108
Std. Deviation	2.828	3.758	4.447	3.898

AUTOMOTIVE 2004 FA STUDENTS
ACT READING SCORES
FREQUENCIES & PERCENTS

		Major						Total	
		ABOD		AUSV		PAUS			
		Count	Column %	Count	Column %	Count	Column %	Count	Column %
ACT Reading	10			1	1%			1	1%
	11	1	7%			1	6%	2	2%
	12	1	7%					1	1%
	13	1	7%	1	1%			2	2%
	14	1	7%	2	3%			3	3%
	15	2	14%	3	4%	1	6%	6	6%
	16	1	7%	13	17%	2	12%	16	15%
	17	1	7%	6	8%	2	12%	9	8%
	18	1	7%	2	3%			3	3%
	19			2	3%	2	12%	4	4%
	20			13	17%	2	12%	15	14%
	21	1	7%	5	6%			6	6%
	22	2	14%			1	6%	3	3%
	23			6	8%			6	6%
	24	1	7%	10	13%	2	12%	13	12%
	25			2	3%	1	6%	3	3%
	26			2	3%			2	2%
	27			2	3%	1	6%	3	3%
	28			2	3%	1	6%	3	3%
	29	1	7%	2	3%			3	3%
	30			2	3%	1	6%	3	3%
	34			1	1%			1	1%
Total		14	100%	77	100%	17	100%	108	100%

MEANS & STANDARD DEVIATIONS

ACT Reading

	Major			
	ABOD	**AUSV**	**PAUS**	**Total**
Mean	*17.79*	*20.61*	*20.59*	*20.24*
N	*14*	*77*	*17*	*108*
Std. Deviation	*5.162*	*4.680*	*5.161*	*4.866*

SECTION 3.A.2

AUTOMOTIVE BODY PROGRAM

PROGRAM PROFILE OF STUDENTS

Ferris State University
APR Enrolled/Graduated 00-04
TEC
Automotive Body

Graduated Students

Year	FSU GPA			ACT		
	Avg. GPA	Min. GPA	Max. GPA	Avg. ACT	Min. ACT	Max. ACT
2000-2001	2.858	1.931	3.802	16.2	10	25
2001-2002	2.914	2.661	3.424	14.6	9	23
2002-2003	2.831	2.3	3.702	15.7	11	19
2003-2004	2.81	2.123	3.492	18.2	8	25

Source:
Institutional Research and Testing
2/9/2005

Auto Body Statistics

Fall enrollment:

	F 95	F 96	F 97	F 98	F 99	F 00	F 01	F 02	F03	F 04	F 05
Total	43	42	41	50	39	37	34	40	47	48	Est 35-40

Graduates two years later:

	AY 96/97	AY 97/98	AY 98/99	AY 99/00	AY 00/01	AY 01/02	AY 02/03	AY 03/04	AY 04/05	AY 05/06	AY 06/07
	3	**15**	**13**	**15**	**10**	**9**	**7**	**18**	**20 ***	**13 *****	**Est 15?**

* AY 2004/2005 second year courses have about 20 enrolled - expect about 20 graduates May 2005.

*** Fall 2005 second year courses have 13 enrolled - expect about 13 graduates May 2006.

	-18	**5**	**-6**	**-3**	**-9**	**-5**	**-10**					200 level-graduares ar how many 200 level that don't gra

Course Enrollments:

	F 95	F 96	F 97	F 98	F 99	F 00	F 01	F 02	F03	F 04	F 05
100 level	18	27	21	31	16	22	17	26	33	25	Est 20-25
200 level	**21**	10	**19**	**18**	**19**	**14**	**17**	**11**	**18**	**20**	Est 13
Total	37	37	40	49	35	36	34	37	51	45	Est 35-40

SECTION 3.D

AUTOMOTIVE BODY PROGRAM

PROGRAM GOALS

Ferris State University

Retention and Graduation Rates of Full-Time FTIAC Students - By Major

Two-Year Degree Programs

Fall Term

Entering Fall Term	Major	N		Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1994F	ABOD	16							
			% Graduated By	0	25	25	37	50	50
			% Still Enrolled In	68	25	18	13	0	0
			% Persisters	68	50	43	50	50	50
			% Non-Persisters	32	50	57	50	50	50
1995F	ABOD	17							
			% Graduated By	0	17	23	23	23	29
			% Still Enrolled In	52	6	0	0	6	0
			% Persisters	52	23	23	23	29	29
			% Non-Persisters	48	77	77	77	71	71
1996F	ABOD	24							
			% Graduated By	0	37	50	54	54	58
			% Still Enrolled In	79	21	8	4	4	0
			% Persisters	79	58	58	58	58	58
			% Non-Persisters	21	42	42	42	42	42
1997F	ABOD	16							
			% Graduated By	0	50	50	62	62	62
			% Still Enrolled In	87	18	12	0	0	0
			% Persisters	87	68	62	62	62	62
			% Non-Persisters	13	32	38	38	38	38
1998F	ABOD	22							
			% Graduated By	0	31	45	50	50	50
			% Still Enrolled In	63	28	5	4	0	4
			% Persisters	63	59	50	54	50	54
			% Non-Persisters	37	41	50	46	50	46
1999F	ABOD	11							
			% Graduated By	0	36	54	54	63	
			% Still Enrolled In	90	27	9	9	0	
			% Persisters	90	63	63	63	63	
			% Non-Persisters	10	37	37	37	37	

Ferris State University

Retention and Graduation Rates of Full-Time FTIAC Students - By Major

Two-Year Degree Programs

				Fall Term					
Entering Fall Term	**Major**	**N**		**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
2000F	ABOD	17							
			% Graduated By	0	17	41	41		
			% Still Enrolled In	82	30	17	11		
			% Persisters	82	47	58	52		
			% Non-Persisters	18	53	42	48		
2001F	ABOD	13							
			% Graduated By	0	30	46			
			% Still Enrolled In	69	31	7			
			% Persisters	69	61	53			
			% Non-Persisters	31	39	47			
2002F	ABOD	17							
			% Graduated By	0	35				
			% Still Enrolled In	70	23				
			% Persisters	70	58				
			% Non-Persisters	30	42				
2003F	ABOD	20							
			% Graduated By	0					
			% Still Enrolled In	75					
			% Persisters	75					
			% Non-Persisters	25					

SECTION 3-J

AUTOMOTIVE BODY PROGRAM

PROGRAM COST

Table V

Instructor Cost Per SCH for Courses
Alpha by Course
2002-03

Course	Level	Course Description	Instructor Cost* Per SCH
ABIOELE	E	Elective	$98.06
ABOD111	L	Automotive Body	$122.25
ABOD112	L	Automotive Body	$132.03
ABOD113	L	Automotive Body	$150.04
ABOD114	L	Automotive Body	$157.18
ABOD211	L	Automotive Body	$311.08
ABOD212	L	Automotive Body	$311.08
ABOD213	L	Automotive Body	$311.08
ABOD214	L	Automotive Body	$311.08
ABOD215	L	Automotive Body	$177.08
ACCT201	L	Accountancy	$116.57
ACCT202	L	Accountancy	$166.24
ACCT205	L	Accountancy	$433.34
ACCT221	N	Accountancy	$155.48
ACCT241	N	Accountancy	$155.48
ACCT301	N	Accountancy	$155.48
ACCT305	N	Accountancy	$155.48
ACCT310	U	Accountancy	$263.86
ACCT312	U	Accountancy	$322.20
ACCT321	U	Accountancy	$195.00
ACCT350	U	Accountancy	$153.46
ACCT410	U	Accountancy	$227.67
ACCT412	N	Accountancy	$155.48
ACCT431	U	Accountancy	$203.20
ACCT441	N	Accountancy	$155.48
ACCT510	G	Accountancy	$274.23
ACCT550	N	Accountancy	$155.48
ACCT561	G	Accountancy	$228.53
ACCT665	G	Accountancy	$268.13
ACNTELE	E	Elective	$231.06
ADVG222	L	Advertising	$90.78
ADVG312	U	Advertising	$189.67
ADVG324	N	Advertising	$155.48
ADVG334	U	Advertising	$254.09
ADVG375	U	Advertising	$181.94
ADVG376	U	Advertising	$300.29
ADVG485	U	Advertising	$107.91
ADVG486	U	Advertising	$256.35
ADVG488	U	Advertising	$422.97
AHEM301	U	Automotive/Heavy Equipment Management	$99.84
AHEM302	U	Automotive/Heavy Equipment Management	$95.08

* Instructor Cost - ***Salary & Fringe***

Table I

Degree Program Costing Summary
Alpha Listing of Programs
2002-03

Program Name	Prog Crs Req	Total Instructor Cost*	Total Dept Cost**	Total Dean's Cost***	Total Program Cost	Instructor Cost Per SCH	Dept Cost Per SCH	Dean's Cost Per SCH	Total Cost Per SCH
Accountancy (Professionally Directed Track) BS	124	$17,875.07	$3,440.45	$2,208.53	$23,524.06	$144.15	$27.75	$17.81	$189.71
Accountancy (Public Accounting Track) BS	124	$17,511.08	$3,551.36	$2,212.66	$23,275.09	$141.22	$28.64	$17.84	$187.70
Accountancy/Computer Information Systems BS	144	$21,628.11	$5,138.49	$2,614.03	$29,580.63	$151.58	$35.68	$18.15	$205.42
Accountancy/Finance BS	135	$20,276.57	$3,931.04	$2,377.14	$26,584.75	$150.20	$29.12	$17.61	$196.92
Accounting AAS	60	$8,739.14	$1,628.31	$1,046.44	$11,413.89	$145.65	$27.14	$17.44	$190.23
Advanced Construction Management Certificate	12	$1,726.05	$463.75	$262.20	$2,452.00	$143.84	$38.65	$21.85	$204.33
Advanced Studies in Global Logistics Certificate	12	$2,697.65	$440.99	$262.97	$3,401.61	$224.80	$36.75	$21.91	$283.47
Advanced Studies in Investment Analysis Certif	12	$2,627.82	$380.65	$267.56	$3,276.03	$218.98	$31.72	$22.30	$273.00
Advanced Studies in Total Quality Management	12	$4,378.94	$781.98	$337.81	$5,498.74	$364.91	$65.17	$28.15	$458.23
Advertising BS	125	$16,723.14	$3,613.73	$2,091.63	$22,628.50	$133.79	$30.51	$16.73	$181.03
Advertising Certificate	14	$3,084.89	$586.31	$311.39	$3,984.59	$220.35	$42.02	$22.24	$284.61
Allied Health Education BS (Yrs 3 & 4)	92	$9,196.81	$4,299.40	$1,675.71	$15,171.92	$99.97	$46.73	$18.21	$164.91
Applied Biology BS	127	$13,240.07	$3,295.41	$997.74	$17,533.22	$104.25	$25.95	$7.86	$138.06
Applied Biology (Environmental Biology Track)	127	$15,435.22	$3,332.02	$1,042.64	$19,809.88	$121.54	$26.24	$8.21	$155.98
Applied Biology (Forensic Biology Track) BS	128	$16,880.41	$3,399.95	$1,092.30	$21,372.66	$131.88	$26.56	$8.53	$166.97
Applied Biology (Pre-Dentistry Track) BS	127	$15,722.24	$3,288.69	$1,124.29	$20,135.22	$123.80	$25.90	$8.85	$158.55
Applied Biology (Pre-Medicine Track) BS	127	$15,750.56	$3,288.69	$1,124.29	$20,163.53	$124.02	$25.90	$8.85	$158.77
Applied Biology (Pre-Physical Therapy Track) B	127	$13,772.58	$3,194.66	$1,036.63	$18,003.87	$108.45	$25.15	$8.16	$141.76
Applied Biology (Pre-Veterinary Medicine Track)	123	$14,933.28	$3,139.93	$1,098.66	$19,165.87	$121.41	$25.48	$8.93	$155.82
Applied Mathematics BS	120	$14,609.41	$3,395.11	$1,824.74	$19,829.26	$121.75	$28.29	$15.21	$165.24
Applied Mathematics (Actuarial Science Track)	120	$14,847.63	$3,115.74	$1,697.32	$19,660.69	$123.73	$25.96	$14.14	$163.84
Applied Mathematics (Computer Science Track)	120	$16,542.29	$3,092.76	$1,688.91	$21,323.96	$137.85	$25.77	$14.07	$177.70
Applied Mathematics (Operations Research Tra	120	$14,198.03	$3,425.47	$1,884.63	$19,508.13	$118.32	$28.55	$15.71	$162.57
Applied Mathematics (Statistics Track) BS	120	$14,794.24	$3,113.00	$1,728.83	$19,636.08	$123.29	$25.94	$14.41	$163.63
Applied Speech Communication AA	60	$5,494.09	$1,381.18	$567.99	$7,443.26	$91.57	$23.02	$9.47	$124.05
Applied Speech Communication BS	126	$17,524.20	$3,190.55	$1,568.15	$22,282.91	$139.08	$25.32	$12.45	$176.85
Architectural Technology AAS	66	$20,051.67	$3,938.43	$1,109.96	$25,100.05	$303.81	$59.67	$16.82	$380.30
Art History - Academic BS	120	$14,646.88	$1,180.52	$1,963.71	$17,791.11	$122.06	$9.84	$16.36	$148.26
Art History -Studio BS	120	$16,743.34	$1,481.80	$1,963.71	$20,188.85	$139.53	$12.35	$16.36	$168.24
Automotive and Heavy Equipment Mgmt BS (Yr	68	$8,715.85	$3,087.23	$1,197.18	$13,000.26	$128.17	$45.40	$17.61	$191.18
Automotive Body AAS	63	$11,618.74	$3,423.35	$1,105.96	$16,048.05	$182.84	$54.34	$17.56	$254.73
Automotive Engineering Technology BS (Yrs 3	70	$8,796.28	$3,578.02	$1,193.92	$13,568.22	$125.66	$51.11	$17.06	$193.83
Automotive Service Technology AAS	68	$17,213.71	$3,559.65	$1,212.58	$21,985.91	$253.14	$52.35	$17.83	$323.32
Biology BA	126	$15,240.45	$3,444.98	$1,381.37	$20,066.80	$120.96	$27.34	$10.96	$159.26
Biology Education BS	122	$14,210.03	$4,544.56	$1,630.65	$20,385.24	$116.48	$37.25	$13.37	$167.09
Biotechnology BS	130	$35,422.63	$3,379.28	$997.63	$39,799.55	$272.48	$25.99	$7.67	$306.15
Building Const Tech - Mech/Elec/Plmb emphasi	64	$8,248.04	$1,925.21	$1,015.09	$11,188.34	$128.88	$30.08	$15.86	$174.82
Building Construction Tech - Building emphasis	64	$8,246.26	$1,925.21	$1,015.09	$11,186.56	$128.85	$30.08	$15.86	$174.79
Business Administration BS	124	$15,156.64	$3,728.43	$2,198.88	$21,085.96	$122.25	$30.07	$17.73	$170.05
Business Administration/Legal Assisting BS	128	$16,371.37	$3,676.40	$2,263.84	$22,311.61	$127.90	$28.72	$17.69	$174.31
Business Education/General Business BS	155	$19,292.92	$5,509.28	$2,680.46	$27,482.66	$124.47	$35.54	$17.29	$177.31

* Instructor Cost - ***Salary & Fringe***
** Department Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment***
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment***

Source: Office of Institutional Research, g:\...\progcost\0203\alphaprg.rsl

Ferris State University
Degree Program Costing 2002- 2003 (Summer, Fall, and Winter)

College : Technology
Department : Automotive

Program Name: Automotive Body AAS

Program Credits Required (Total credits to graduate) 63

*Instructor Cost per Student Credit Hour(SCH) (Average for program)	$182.84
**Department Cost per Student Credit Hour	$54.34
***Dean's Cost per Student Credit Hour	$17.55
Total Cost per Student Credit Hour (Average for program)	**$254.73**
Total Program Instructor Cost (Assumes a student will complete program in one year)	$11,518.74
Total Program Department Cost	$3,423.35
Total Program Dean's Cost	$1,105.96
Total Program Cost (Assumes a student will complete program in one year)	**$16,048.05**

Course ID	Level	Instructor Cost	Dept Cost	Dean's Cost	SCH's Produced	Instructor Cost/SCH	Dept Cost/SCH	Dean's Cost/SCH	Credits Required	Program Instructor Cost	Program Dept Cost	Program Dean's Cost
ABOD111	L	$13,203	$6,797	$2,303	108	$122	$63	$21	4	$489	$252	$85
ABOD112	L	$19,805	$9,440	$3,198	150	$132	$63	$21	6	$792	$378	$128
ABOD113	L	$13,203	$5,538	$1,875	88	$150	$63	$21	4	$600	$252	$85
ABOD114	L	$19,805	$7,930	$2,686	126	$157	$63	$21	6	$943	$378	$128
ABOD211	L	$13,687	$2,769	$938	44	$311	$63	$21	4	$1,244	$252	$85
ABOD212	L	$20,531	$4,154	$1,407	66	$311	$63	$21	6	$1,866	$378	$128
ABOD213	L	$13,687	$2,769	$938	44	$311	$63	$21	4	$1,244	$252	$85
ABOD214	L	$20,531	$4,154	$1,407	66	$311	$63	$21	6	$1,866	$378	$128
ABOD215	L	$8,500	$3,021	$1,023	48	$177	$63	$21	4	$708	$252	$85
CULTELE	E	$2,154,437	$364,278	$143,190	21562	$100	$17	$7	3	$300	$51	$20
ENGL150	L	$583,812	$97,248	$39,767	6153	$95	$16	$6	3	$285	$47	$19
ENGL250	L	$525,942	$81,364	$33,272	5148	$102	$16	$6	3	$306	$47	$19
PHYS130	L	$40,469	$13,017	$4,059	628	$64	$21	$6	4	$258	$83	$26
SOCY121	L	$218,034	$60,593	$20,068	3105	$70	$20	$6	3	$211	$59	$19
WELD116	L	$11,344	$10,281	$1,791	84	$135	$122	$21	3	$405	$367	$64

* Instructor Cost - ***Salary & Fringe*** - the actual cost to teach a course
** Department Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment*** - departmental average applied to all course prefixes within a department
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment*** - college average applied to all course prefixes within a college

Source: Office of Institutional Research, g:\...\progcost\0203\progcost.rsl

SECTION 4

AUTOMOTIVE BODY PROGRAM

EVALUATION OF FACILITES AND EQUIPMENT

Facilities

The Automotive Body Technology program started in 1955 in a wing of the Trade and Industrial Center on the Ferris State University campus. When the program began, it occupied approximately 10,600 sq. ft. There was one faculty member and 20 students. The Automotive Body Technology is the second oldest program in the departments.

Presently the Automotive Body Technology program occupies approximately 13,300 sq. ft. in the Automotive Center building. This facility had a major remodel in 1988 to better accommodate the automotive programs.

One of the major features of the Automotive Body Technology program at Ferris State University is the large service lab operations. This 13,300 sq. ft. service shop is designed to operate much like a body dealership. The vehicles that are worked on in this shop are mainly provided by service customers and the work is done by automotive students and supervised by the faculty.

Technological Equipment/Computers

The program's equipment has been upgraded over the past ten year's which includes various new pieces of technology. The major expenditures for the technology are as followed. They are two new down draft paint spray booths, computerized paint mixing, computerized frame measuring, computerized estimating, air handling system, and a new prep station. Various other smaller pieces of equipment such as mig welders, chainless anchoring system and hand tools have been purchased through the years. All of these major expenditures has afforded the Auto Body Program to be one of the best equipped programs at Ferris. Listed below are the major pieces of technology and how they were funded. The only way this program became so well equipped as you can see is by many different resources both from industry and Ferris.

The technological/computer equipment used in the Auto Body Program is useful to its graduates' careers.

A partial list of tools and manual systems along with our vehicle list shows the corporate commitment to the program through equipment donations.

We have received semi loads of hoods and fenders for the students educational purposes in the welding and body repair labs from Keystone Automotive and Michigan Auto Supply over the past couple years.

Presently 74 vehicles are only one year old the rest are only a couple years old. The list of vehicles illustrates how we rate them for educational use each as air, cruise, engine, transmission, etc. We replace the oldest first unless the vehicle has

some special system on it that we have very few of. That vehicle may be a year of two older because it might be harder to replace that particular type of vehicle.

We have four state of the art computer manuals; one each from GM, Ford, and Chrysler, and an All Data system for all other car lines. A long with the computer systems we have a paper manual system and Mitchell system as well.

Our computers are up dated every two weeks with CD ROMs that are sent to us from the corporations. In-between the two weeks we can call over the phone lines using our corporate computers to connect with a dialer main frame for information.

Major Technology School/Company	**Cost**	**Year**
2 paint spray booths	$200,000	87/88
Building remodel Ferris		
Air handling system	$ 51,000	97
Finish Master/Minor CAPS		
Computerized frame measuring	$ 30,000	97
Greg Key/State grant		
Frame machine fixtures	$ 90,000	97
ALTRA Products		
Computerized paint mixing	$ 8,000	98
PPG Industries		
Prep Station	$ 25,000	99
Finish Master/BPH/Voc Ed Funds		
Computerized estimating	$ 3,877	99
S&E Budget		
Chainless anchors for frame machine	$ 6,050	99
Voc Ed Dollars		

The budgets for the Auto Body Program seem to meet their present needs. Both the S&E and Voc. Ed. Budgets have had slight increases in the past few years. There were a few years that the Auto Body Program didn't receive any Voc. Ed. monies. Sense the Voc Ed. Funds can now be dispensed with more input from the University and if the auto body program keeps getting its share there would be no need for additional monies.

FSU Automotive Department
Demo Car List Revised August 12, 2005

FSU Vehicles

Model	Make	Year	FSU#;	Color	engine	Trans	ABS	Dash	Cruise	A/C	SRS
			AT #25								
			AT #41								
			AT #48								
			AT #29								
			AT #51								
			AT #55								
Audi											
	A4 Ouattro A6	1999	AT #11	Red	2.8l	5SPD a	ves	No	Yes	Yes	Yes
Chrysler											
	300C	2005	AT #53	Silver	5.7 He	Auto	Yes	No	Yes	A/C	Yes
	PT Cruser	2000	AT #63	Red	2.4L	5spd m	Yes	NO	Yes	Yes	Yes
	Sebring	2004	AT #42	Blue	2.4L	Auto	Yes	No	Yes	Yes	Yes
DODGE											
	1500 Pick-up	2002	AT #64	Black	4.7L V	4spd au	Yes	No	Yes	Yes	Yes
	Durango	2004	AT #01	Bk	4.7 He	Auto	ves	Noe	Yes	Yes	Yes
	Intreped	2000	AT #62	Black	3.2	autostic	Yes	No	Yes	Yes	Yes
	Neon	1999	AT #03	red	2.0L	AUTO	no	ves	ves	ves	Yes
	Ram Red PU	1998	AT #12	red	5.2	Auto	Yes	No	Yes	Yes	Dual
	Srtatus	2001	AT #13	Black	2.4L	4spd au	Yes	No	Yes	Yes	Yes
	Viper	2001	AT #17	Red	V-10	6spd m	No	No	No	Yes	Yes
Jeep											
	Grand Cherokee	1999	AT #28	Platinum	4.7	4spd au	ves	no	ves	ves	ves
	Grand Cherokee	1999	AT #49	BURG	4.7	AUTO	YES	NO	YES	YE	YES
	Liberty	2002	AT #65	Black	3.7L V	3spd au	Yes	No	Yes	Yes	Yes
	Wrangler	1997	At #10	White	2.5l	5spd	No	No	No	No	Yes
Ford											
	Crown Vic		AT #46	White							
	Crown Vic		AT #59	White							
	Crown Victoria	1996	AT #43	burgandy							
	E150 Van Storage ve	1996	AT #24	red							
	E250 Diesel Van	1996	AT #36	blue	7.3 DI	Auto	Rear	No	No	No	Yes

Model	Make	Year	FSU#;	Color	engine	Trans	ABS	Dash	Cruise	A/C	SRS
	Escort	1998	AT #69	Silver	2.0L	4spd od	No	No	Yes	Yes	Yes
	Explorer	1996	AT #44	green	4.0L	Auto	Yes	No	Yes	Air	Yes
	F-150	2003	AT #56	gray	4.6L	4spd au	Yes	No	Yes	Yes	Yes
	F150 4x4	1997	AT #45	grey	4.6L	5spd M	Yes	No	Yes	Air	Yes
	Focus	2001	AT #58	Blue	2.0L	3spd au	No	No	Yes	Yes	Yes
	Mustang	2001	AT #54	Yellow	3.8L	Auto	No	No	Yes	Air	Yes
	Mustang convt.	2003	AT #05	white	3.8L	AXOD		No	ves	Air	No
	Ranger 4X2	1996	AT #33	green	4.0L		No	No	Yes	No	No
	taurs gl	1996	AT #37	red							
	Windstar	1995	AT #21	lt blue	3.8L	ATOD	No	No	Yes	Air	Yes
Lincoln											
	Lincoln Continental	1995	AT #47	green	4.6L	ATOD	Yes	Yes	Yes	Air	Yes
	Towncar	1996	AT #02	pearl	4.6L	AXOD	Yes	No	Yes	AC	Yes
Mercury											
	Mountaineer	2003	AT #38	White	4.6L	auto	Yes	No	Yes	Yes	Yes
Buick											
	Buick Rivera	1998	AT #32	green	3.8 S/	4sp aut	Yes	No	Yes	Yes	ves
	LeSabre	2000	AT #19	pewter	3800	Auto O	Yes	No	Yes	Yes	Yes
	LeSabre	2002	AT #35	Black	3800	4spd au	Yes	No	Yes	Yes	Yes
	Regal	1999	AT #06		3800	ATOD	Yes	Yes	Yes	Air	ves
Chevy											
	excab pick-up4x4	1998	AT #15	lt blue	5.7L	4spd A	Yes	No	Yes	No	Dual
	Impala	2000	AT #88		3.8L	4SPD	Yes	No	Yes	Yes	Yes
	Malibu	1998	AT #20	White	2.4L	Auto	Yes	No	Yes	Yes	Yes
	Malibu	2003	AT #31	Silver	3100	4spd au	Yes	No	Yes	Yes	Yes
	pick-up	1998	AT #14	green	5.7L	auto	Yes	No	Yes	No	Yes
	Silverado 2500 HD	2004	AT #26	silver	6.0L	4spd	Yes	No	ves	Yes	Yes
	Silverado P/U	2001	AT #16	silver	8.1L	4spd au	Hvd	No	Yes	Yes	ves
	Tahoe	2001	AT #82	Silver	5.3l	4spd au	Yes	No	Yes	Yes	Yes
	Uplander	2005	AT #22	Bronze	3.5	Auto	Yes	No	Yes	Yes	Yes
GMC											
	P/U Truck	1998	AT #50	green	5.7	4-auto	Yes	No	Yes	Air	No
	Sierra	2001	AT #39	white	8100	6spd	Yes	No	No	Yes	Yes
	Sonoma	2000	AT #87	BLACK	2200	5SP M	YES	NO	YES	YE	YES

Model	Make	Year	FSU#;	Color	engine	Trans	ABS	Dash	Cruise	A/C	SRS
Olds											
	Bravada	2002	AT #30	Red	4.2L	Auto	Yes	No	Yes	Yes	Yes
	Sillouette	2003	AT #57	Red	3.4L	4spd au	yes	No	Yes	yes	yes
Pontiac											
	Grand Am	2002	AT #09	Gold	3400	Auto	Yes	No	Yes	Yes	Yes
	Grand Prix	1999	AT #18	RED	3.8L	Auto O	YES	No	YES	Yes	Yes
	Grand Prix	2004	AT #34	Grey	3.8L	4spd	YES	NO	YES	YE	YES
	Vibe GT	2003	AT #23	Black	1.8L	6spd M	Yes	No	Yes	Yes	Yes
Saturn											
	Saturn	1999	AT #61	green	1.9L	4spd au	no	yes	no	yes	yes
	Saturn	1999	AT #27	white	1.9 OH	5spd m	no	yes	Yes	yes	Yes
	SL1	2000	AT #40	Champa	2.0L	5spd m	No	No	No	No	Yes
Jaguar											
	Jaguar	2000	AT #89	Burgandy	4.OL	Auto	Yes	No	Yes	Yes	Yes
	XK8	1999	AT #79	Red	4.0L	Auto	Yes	No	Yes	Yes	Yes
Mazda											
	626	2000	AT #52	Black	2.0L	Auto	No	No	Yes	Yes	Yes
NISSAN											
	Altima GLE	2001	AT #66	Pewter	2.4L	3spd au	Yes	No	Yes	Yes	Yes
	D-21 Pick-up	1996	AT #60	red	2.4L	3spd O	No	No	Yes	Air	Yes
	Frontier EX cab P/U	2001	AT #67	Red	3.3L	5spd M	YesY	No	Yes	Yes	Yes
	Sentra	2003	AT #07	Blue	2.5L	4spd	Yes	No	Yes	Yes	Yes
	Sentra	2003	AT #04	Silver	1.8L	5spd	Yes	No	Yes	Yes	Yes
	Xterra	2003	AT #08	Red	3.3L	Auto	Yes	No	Yes	Yes	Yes
	Xterra SE	2001	At #68	Bronze	3.3L	4spd au	Yes	No	Yes	Yes	Yes

SECTION 4.D

AUTOMOTIVE BODY PROGRAM

LIBRARY AND INFORMATION SERVICES

The Ferris Library for Information, Technology and Education is a multifaceted, complex organization designed to serve the needs of the students of Ferris State University, the faculty and staff and the community at large. We provide access through various channels to information necessary to the success of our students.

The library has a budget that is divided among the 120 or so programs that are offered at Ferris. Books, periodicals and electronic databases are purchased both for specific programs and for the student body at large. Over the last few years, the Automotive Department, including the Auto Body Program has had a book budget of some $6,000.00. We have purchased as many books and periodicals as we can afford, along with a number of specific databases. For the College of Technology, the *Applied Science and Technology Abstracts* database most specifically provides access to periodical literature on the automobile/service industry. We continue to look for resources that will be of use to our students and faculty.

All told, the library provides access to almost 13,000 journals, magazines and other periodicals in various formats. We also have purchased or have database access to almost 40 journals dealing specifically with auto body repairing and maintenance. Some of the databases we provide our students include the *Applied Science and Technology Abstracts Index* (some full-text); *Wilson SelectPlus* (full-text); *InfoTracOne* (full-text) and other general use databases.

For those articles or books to which we do not have direct access (bound periodicals, microfiche, electronic full-text, etc.) we provide interlibrary loan service at no charge to our students and faculty. With the improvement in technology, these articles are usually available within two days of request and often within 24 hours..

A new service that is being funded by the State of Michigan is the new MelCat database made up of participating Michigan libraries online public access catalogs. Eventually every library in Michigan will participate, but currently, there are 34 libraries participating, including Michigan State University, Wayne State University, Grand Valley State University and many others. A patron may conduct their own interlibrary loan transaction through the MelCat database, and the book or article they request will be sent to their home library. If a Ferris student finds a book at another library, they after his transaction, the book will be sent to Ferris' library and the student will be contacted to come and pick it up. The URL is: http://elibrary.mel.org/

The library also provides access to a number of specialized computer programs for College of Technology students. These include AutoCad 2004 and Mechanical Desktop 2004 power pack. These computers are located on the 2nd floor of FLITE. We have also added a small number of Apple Computers for those patrons who wish to use graphic intensive programs. All of the computers in the library provide access to Microsoft Office Suite to assist students in writing papers and preparing presentations.

Library instruction is also available to all College of Technology students upon request of the faculty member. General library instruction and specialized database/Internet training is also available.

The library has depository status for U.S. government documents, the U.S. Patent and Trademark Office and the State of Michigan. These agencies provide both tangible (paper-based, microfiche, etc.) and electronic access to publications of the various agencies and offices. Some 34,000 electronic resources are available through our online public access catalog. Many of these are government documents of one sort or another.

The library also provides extended study hours to assist students who must work and/or have other commitments during the normal work day.

List of Journals that include articles about Auto Body Repair subscribed to by FLITE.

Advanced Materials & Processes.

Aftermarket Business.

Aluminum International Today.

American Machinist.

Auto Week.

Autocar.

Automobile Magazine.

Automotive Body Repair News.

Automotive Design & Production.

Automotive Industries.

Automotive News.

Corrosion.

Design News.

Elastomerics.

The Engineer.

Experimental Mechanics.

Fleet Owner.

Industrial Finishing.

J.O.M.

Journal of Engineering for Industry.

Journal of Manufacturing Science & Engineering.

Journal of Material Science.

Machine Design.

Manufacturing Engineering.

Metallurgia.

Modern Machine Shop.

Modern Metals.

Motor Age.

Motor Trend.

New Steel.

Plastics Technology.

Product News Network.

Production Technology News.

Science and Technology of Welding and Joining.

Tooling and Production.

Ward's Auto World.

Ward's Dealer Business.

Welding Journal.

What's New in Industry.

SECTION 5

Conclusion

1. **Is the Automotive Body Program mission central to the mission of Ferris State University.**

The mission of the Automotive Body technology program is to prepare students for the employment in the Auto Body repair field, and to supply an avenue for further education and to be participative members of society.

In the late 1980's, 1990's the autobody program graduated on average 21.5 per year. In the last ten year the autobody has graduated 11 students. With half the students going on to baccalaureate degrees and half going to work as an autobody technician. It seems that the program is not performing either part of its mission statement.

2. **Uniqueness/Visibility and demand by students**

There are many community colleges with autobody programs in the state, which does not make the autobody program unique in the state.

3. **Service to State and Nation and demand for graduates:**

With only eleven graduates per year it is obvious that the program is not supplying the state needs.

4. **Quality of Instruction**

From both the advisory committee meetings and surveys the quality of instruction is suspect. Sixty years of teaching experience only two promotions. None of the past three teachers have earned a M.S. degree.

5. **Service to Non-majors**

The autobody program teaches no service courses for any other program.

6. **Facilities and equipment**

Seem to be the least of the problem with the program.

7. **Library information resources**

Library information resources are good.

8. Faculty: One faculty retired May, 2005, leaving one full time faculty.

We have either one or two adjuncts teaching with the tenure track faculty depending on enrollment.

Summary

While the autobody enrollment has fluctuated over the past years, the numbers are not as bad as some programs. There is somewhat of a retention problem as can be seen from last year 26 freshmen, starting in fall 2004 and at the start of winter semester, the freshman were down to 14. The results mean that the program will be running the next year and a half of the program with a small number of students, 14.

With the universities present position on increasing the universities entrance requirements this is the results of what will happen to the autobody enrollment in 2006 and 2008. I reviewed the last four years of the students that entered the program in 2002, 2003, 2004, and 2005. The results of the 2006 year will be and average of 9.5 students less from a total of 26.5 which will leave a total enrolled of 17.25 students starting the fall 2006. This immediately means that there is no need to hire a faculty position. With the implementation of the 2008 standards the average enrollment 26.5 will be lowered 14.25 students for a total enrolled of 12.25 freshmen to start fall 2008. As can be seen with an average of 12.25 students, qualifying to enroll at the university in 2008 there seems to be a 100% correlation between the 2008 standards and the last 10 years with the autobody graduates of 11 per year.

I don't see how the program can change the type of student that are attracted to the program. It looks like to me that the program is headed for a rapid decline with no way to correct the situation. As a department chair I need some immediate direction, if you want to risk running a program at these levels.

	02	**03**	**04**	**05**	**Average**
2006	11	8	9	9	X = 9.5
2008	13	16	12	16	X = 14.25
2006	24	29	24	29	X = 26.5
	-11	8	9	9	
Enrolled	13	21	15	20	X = 17.25
2008	24	29	24	29	X = 26.5
	-13	16	12	16	
Enrolled	11	13	12	13	X = 12.25

SECTION 5-D

AUTOMOTIVE BODY PROGRAM

ENROLLMENT

Auto Body Statistics

Fall enrollment:

	F 95	F 96	F 97	F 98	F 99	F 00	F 01	F 02	F03	F 04	F 05
Total	43	42	41	50	39	37	34	40	47	48	Est 35-40

Graduates two years later:

	AY 96/97	AY 97/98	AY 98/99	AY 99/00	AY 00/01	AY 01/02	AY 02/03	AY 03/04	AY 04/05	AY 05/06	AY 06/07
	3	**15**	**13**	**15**	**10**	**9**	**7**	**18**	**20 ***	**13 *****	**Est 15?**

* AY 2004/2005 second year courses have about 20 enrolled - expect about 20 graduates May 2005.

*** Fall 2005 second year courses have 13 enrolled - expect about 13 graduates May 2006.

	-18	**5**	**-6**	**-3**	**-9**	**-5**	**-10**					200 level-graduares ar	how many 200 level that don't gra

Course Enrollments:

	F 95	F 96	F 97	F 98	F 99	F 00	F 01	F 02	F03	F 04	F 05
100 level	18	27	21	31	16	22	17	26	33	25	Est 20-25
200 level	**21**	10	**19**	**18**	**19**	**14**	**17**	**11**	**18**	**20**	Est 13
Total	37	37	40	49	35	36	34	37	51	45	Est 35-40

VITA
Victor V. Fowler

EDUCATION: Associate Degree in Auto Body Repair
Washtenaw Community College
Ann Arbor, Michigan 1976

Bachelor Degree in Trade-Technical Teaching
Ferris State University, 1981

WORK EXPERIENCE: Auto Body Repairman 1975-1984

TEACHING EXPERIENCE: Assistant Professor
Ferris State University
1984 to Present

Temporary Technical Instructor
Ferris State University
Summer 1982-1983

Paraprofessional Instructor
Traverse Bay Area Vocational Center
January 1979 to June 1979

Recent Industrial Courses/Workshops:

- Dupont Paint Seminar
- Sikkens Paint Seminar
- State Farm Insurance Estimating Seminar
- Unibody I-Car Seminar
- 3-M Plastic Repair Seminar
- P.P.G. Paint Seminar
- General Motors Paint Matching and Tinting
- Spray Finishing Safety Seminar
- Acme Paint Workshop
- Martin Senior Paint Workshop
- Hunter 4-Wheel Alignment

Industrial Courses Workshop

- Automotive Service Excellence (A.S.E.) Certification. Structural, Non-Structural, and Refinishing, expires - July 2001

- Michigan Occupational Competency Assessment Center, Master Examiner for Auto Body Repair - 1994 through 2000.

- P.P.G. Refinishing Training Course, Vo-Tech. Training - July 1999
- SEM Plastic Repair - September of 1997, 1998 and 1999.
- Shark Electronic Measuring System - December 1997.
- Ferris State University, National Association of College Automotive Teachers Seminar. Basic electrical trouble shooting and wiring diagrams - July 1990.
- Chief Automotive Systems, Ferris State University, Theory and Principle of Structural Damage Analysis - July 1990.
- Chief Automotive Systems, Ferris State University, Unitized Vehicle Repair Demonstration - July 1990.
- Blackhawk Automotive, Ferris State University, Measuring and Body Correction of the 1990's - July 1990.
- P.P.G. Industries, Ferris State University, Tri-Coat Repairs - July 1990.
- 3-M Company, Ferris State University, APV Plastic Repair Techniques - July 1990.
- 3-M Company, Ferris State University, Plastic Finishing and Painting - July 1990.
- P.P.G. Industries, Ferris State University, Hazardous Chemicals and Environmental Factors - July 1990.
- DuPont Paint, Ferris State University, Chroma Base Cronar Paint System - July 1990.
- General Motors Training Seminar, Ferris State University. Seminar included base coat, clear coat paint repair, color adjustment and new tri-coat paint repair procedures - August 29, 1989 to July 1, 1989.
- Total Wheel Alignment Seminar, Ferris State University - March 1989.
- ICAR Unibody Frame Repair and Measuring, Ann Arbor, Michigan. New techniques and equipment involved with unibody repair and measuring - February 1988.
- Sikkens Product Seminar, Traverse City, Michigan. New product information and demonstration - July 1988.
- Auto Body Electrical Component Safety and Repair, Delta Community College. Hands on participation of wiring procedures and repair - November 1988.

- **Vocational Instructors Seminar, Automotive Trades Divison 3-M Company - October 1988.**

- **Sikkens Paint, Instructor School - July 1987**

VITA

JAMES A. BIGELOW

EDUCATION: Associates Degree in Auto Body Repair,
Ferris State University, 1970.

Bachelor Degree in Trade Technical Teaching,
Ferris State University, 1983.

WORK EXPERIENCE: Body Shop Manager, Body shop Repairman, and Automotive Painter.

TEACHING EXPERIENCE: Technical Instructor, Ferris State University, 1973 to present.

Recent Industrial Courses/ Workshops:

- DuPont Paint Seminar
- Sikkens Paint Seminar
- State Farm Insurance Estimating Seminar
- Unibody I-car Seminar
- 3-M Plastic Repair Seminar
- P.P.G. Paint Seminar
- General Motors Paint Matching and Tinting
- Spray Finishing Safety Seminar
- Acme Paint Workshop
- Martin Senior Paint Workshop
- Hunter 4-Wheel Alignment

Industrial Courses Workshops:

- Automotive Service Excellence (A.S.E) Certification. Structural, Non-Structural, and Refinishing, expires - July 2001.

- Michigan Occupational Competency Assessment Center, Master Examiner for Auto Body Repair - 1994 through 2000.

- Mitchell International Advanced computer Assisted Auto Collision Estimating - July 1999.

- P.P.G. Refinishing Training Course, Vo-Tech. Training - July 1999.

- SEM Plastic Repair - September of 1997, 1998 and 1999.

- Shark Electronic Measuring System - December 1997.
- The Continuing Education Unit.
- Ferris State University, National Association of College Automotive Teachers Seminar. Basic electrical trouble shooting and wiring diagrams - July 1990.
- Chief Automotive Systems, Ferris State University, theory and Principle of Structural Damage Analysis - July 1990.
- Chief Automotive Systems, Ferris State University, Unitized Vehicle Repair Demonstration - July 1990.
- Blackhawk Automotive, Ferris State University, Measuring and Body Correction of the 1990's - July 1990.
- P.P.G. Industries, Ferris State University, Tri-coat repairs - July 1990.
- 3-M Company, Ferris State University, APV Plastic Repair Techniques - July 1990.
- 3-M Company, Ferris State University, Plastic Finishing and Painting - July 1990.
- P.P.G. Industries, Ferris State University, Hazardous Chemicals and Environmental Factors - July 1990.
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- Sikkens product Seminar, Traverse City, Michigan. New product information and demonstrations - July 1988.
- Auto Body Electrical Component Safety and Repair, Delta Community College. Hands on participation of wiring procedures and repair - November 1988.
- Estimating, Michigan state University. Vocational Education Personnel Development Project - March 1987.

Ferris State University
College of Technology
Automotive Department
Course Syllabus

Course: ABOD 212
Date:
Dept. Approval:
Instructor:

COURSE TITLE:

ABOD 212 – Applied Frame and Unibody Repair Theory

COURSE DESCRIPTION:

This course includes service work in an instructional setting: auto body and frame repairs frequently requested in modern body shops. Estimates and repairs on suspension, frame, and components of damaged automobiles.

CREDIT HOURS:

6 Semester Hours

CONTACT HOURS:

Lecture: 0 Hours Per Week
Lab: 18 Hours Per Week

PREREQUISITES:

ABOD 113 and 114

TEXT BOOKS REQUIRED:

Motor Auto Body Repair Author: Scharff
I-Car Professional Automotive Collision Repair Author: I-Car

SUPPLEMENTS:

Damage Analysis	Student Manual	AT-STRU-2A-1-K
Damage Analysis	Student Manual	AT-STRU-2A-S-00
Straightening Structural Parts	Student Manual	AT-STRU-2B-1-K
Straightening Structural Parts	Student Manual	AT-STRU-2B-S-00
Full & Partial Panel Replacement	Student Manual	AT-STRU-2C-1-K
Full & Partial Panel Replacement	Student Manual	AT-STRU-2C-S-00

ATTENDANCE POLICY:

Daily lecture attendance is expected and will be recorded. Attendance and active participation in lab is required and will be used as a factor for determining your lab grade.

Lecture participation is essential to receiving the maximum benefit from your education. Punctual and consistent attendance is required and expected just as it would be in industry.
0-3 hours unexcused = no penalty
3-20 hours unexcused = loss of one letter grade
21-40 hours unexcused = loss of second letter grade
Each hour absent over 3 hours will result in a 1% reduction in your final grade.
Each tardy will be counted as a one hour absence.

Excused absences shall be granted for validated medical reasons, funerals, or FSU approved field trips for related courses. When possible, requests for excused absences are to be discussed prior to the day(s) missed.

GRADING SCALE:

96.00-100.00%	=A	76.00-79.00	=C
92.00-95.00	=A-	74.00-75.00	=C-
89.00-91.00	=B+	71.00-73.00	=D+
85.00-88.00	=B	68.00-70.00	=D
83.00-84.00	=B-	65.00-67.00	=D-
80.00-82.00	=C+	0.00-65.00	=F

FINAL TERM GRADE:

Final grade based on attendance, test scores, quiz scores, and written assignments. Final grade adjustments are made due to the attendance policy is explained above.

DISABLITIES SERVICES:

"Students with a documented disability (physical, learning, mental, emotional) requiring a classroom accommodation should contact the Disabilities Services Office, located in Arts & Sciences Commons 1017K, extension 3772 or ASC 1021 extension 5039."

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT:

I. Damage Analysis

II. Damage Analysis

III. Straightening Structural Parts

IV. Straightening Structural Parts

V. Full & Partial Panel Replacement

VI. Full & Partial Panel Replacement