

AUTOMOTIVE BODY & REPAIR PROGRAM REVIEW

2014-2015

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1.1 Introduction

The Auto Body and Fender Technician program was approved as a new education program in 1973 at Solano Community College. In 1983 the name of the program was changed to Automotive Body and Repair. The program is comprised of 4 Auto Body classes and one full time-instructor, Dan Ulrich.

Although sections have not been cut, the program had been in decline for many years. The hiring of a full-time instructor in 2011 has allowed the program to grow and its reputation to flourish. With the addition of this full-time instructor, the fill rate for Automotive Body and Repair classes has been steadily growing since the fall of 2011.

Catalog Description

This program is designed to prepare the student for employment as a body repair and paint apprentice in privately owned repair shops or automotive dealerships. A student could be self-employed from the training after completing the program.

Degrees and Certificates Offered

The Automotive Body and Repair Program offers a Certificate of Achievement and an Associate Degree in Science. The Certificate of Achievement can be obtained by completing a 46-unit major. The Associate in Science Degree can be obtained by completing 67 units, including the major and the general education requirements. All courses in the major must be completed with a grade of C or better or a P if the course is taken on a Pass/No Pass basis.

Mission

The goal of the Automotive Body and Repair program is to prepare students for work in the Automotive Body Repair field. The Automotive Body and Repair technician works in automotive repair shops, car dealerships and custom refinishing facilities restoring, refinishing, and replacing vehicle bodies and frames.

Recent Changes to the Program and Degree

The courses required for the Automotive Body Program have remained consistent for over 30 years. IT 150 Industrial Processes has not been offered since 1995 due to lab closure and was made inactive in Spring 2011. IT 101 How Things Work has been substituted for IT 150 for those seeking a degree in Automotive Body and Repair. AUTB 110 Special Projects, while still active, is not being offered at this time and may be deleted after curriculum review.

The workshop has been enlarged to provide a safer and more up-to-date working environment. A welding station and double-post car lift have been added. The frame rack has been moved to a separate and safer location and eye wash stations have been added to meet OSHA regulations

1.2 Relationship to College Mission and Strategic Goals.

The Automotive Body and Repair Program supports the college mission by educating and preparing a diverse student population for employment in the workplace. Our program provides hands-on training in an authentic shop setting where students are able to gain experience and develop professional automotive workplace skills. We maintain relationships with local business leaders to ensure our program is teaching up-to-date industry standards and technologies. Students in our program are given the opportunity to achieve their educational goals and find employment in an industry that has a strong occupational outlook.

Using the matrix provided in Table 1, describe which of SCC's Strategic Directions and Goals the program supports. Address only the goals relevant to the program. *Limit evidence to one paragraph per objective.*

Table 1. SCC's Strategic Directions and Goals

<i>Goal 1: Foster Excellence in Learning</i>	<i>Program Evidence</i>
Obj. 1.1 Create an environment that is conducive to student learning.	Students receive practical instruction and work on cars in a shop setting that is similar to Auto Body Shops. Students are able to use industry standard tools and given hands-on opportunities to practice and build upon skills learned and acquired in class. Students are given access to equipment and practical exercises that provide a realistic work experience.
Obj. 1.2 Create an environment that supports quality teaching.	The instructor presents up-to-date lecture information and gives each student one-on-one attention throughout the semester. This observation helps insure that instruction has been understood and that the proper use of repair and painting techniques are being used. The workshop classroom setting allows the instructor to observe student work and learning outcomes in the classroom. The instructor can make adjustments to instruction and address learning issues as they occur.
Obj. 1.3 Optimize student performance on Institutional Core Competencies	Program curriculum includes basic skills that reinforce Core Competencies. Communication and critical thinking skills necessary for successful employment in the industry are taught and practiced. Students learn to work and communicate with people from a variety of backgrounds to convey information, to comprehend and interpret information, and to diagnose and problem-solve. In addition students gain confidence in their ability to succeed as they learn to manage the personal and professional commitments necessary to complete tasks in a workplace environment.

<i>Goal 2: Maximize Student Access & Success</i>	<i>Program Evidence</i>
<i>Obj. 2.1 Identify and provide appropriate support for underprepared students</i>	The instructor refers students on an individual basis to Counseling and other campus services for appropriate support. Students are advised to drop the course if they are not capable of performing at an introductory level and referred to Counseling services to help prepare them for future enrollment. The instructor spends extra time with students who are struggling and pairs them to work with a student with higher skill level.
<i>Obj. 2.2 Update and strengthen career/technical curricula</i>	The curricula used for this course is updated on a regular basis. Advisory meetings are held and the instructor consults with local and nearby industries on a regular basis regarding curriculum to ensure teaching and job readiness skills are kept up-to-date with current industry standards.
<i>Obj. 2.3 Identify and provide appropriate support for transfer students</i>	N/A
<i>Obj. 2.4 Improve student access to college facilities and services to students</i>	The instructor refers students on an individual basis as needed to Student Services such as Admissions and Records, Financial Aid, and Counseling, and the Career Center.
<i>Obj. 2.5 Develop and implement an effective Enrollment Management Plan</i>	Currently, there is not enough room in AUTB classes to serve the number of students wanting to enroll in the program. We want to hire an additional instructor and add nighttime and weekend classes to meet this need and open the program to students who need alternative class times. At this time, and continue training at their place of employment before they complete our program. We plan to address this by looking at how classes are structured within the program and potentially revising the number or of classes required to receive the certificate or degree.

Goal 3: Strengthen Community Connections	Program Evidence
<i>Obj. 3.1 Respond to community needs</i>	<p>Advisory Committee meetings are held with representatives from various areas of the auto body community to understand current employment needs and to stay current with the latest trends and technology being used in repair shops.</p>
<i>Obj. 3.2 Expand ties to the community</i>	<p>Advisory Committee meetings and visits to local and nearby repair shops keeps leaders in the field informed of Solano Community College’s Automotive Body and Repair program. Students are referred to and find employment at these area auto body repair businesses.</p> <p>We host an annual Solano College Auto Body Club Car Show. We work closely with and are sponsored by local business including: Good Guys Rod and Custom Association, VacaValley Auto Parts, Integrity Auto Body, FinishMaster Automotive and Industrial Paint, and Vaca Valley Corvette Club.</p> <p>These community relationships have helped increase our program’s reputation as one that produces responsible and well-qualified employees.</p>

Goal 4: Optimize Resources	Program Evidence
<i>Obj. 4.1 Develop and manage resources to support institutional effectiveness</i>	<p>The instructor identified areas of need making it possible to determine program priorities. Perkins funding has been utilized to help make the program more effective, up-to-date, and to provide a safer learning environment for students. Workshop space has been increased and updated equipment has been purchased to better teach current automobile body repair techniques.</p>
<i>Obj. 4.2 Maximize organization efficiency and effectiveness</i>	<p>Based on Master Plan recommendations for future growth, the next step will be to review program efficiency and effectiveness with a curriculum consultant. Current considerations include separating the current four 10 unit courses into distinct low unit classes, developing stackable certificates students can obtain for employment, acquiring new curriculum to move towards nationally recognized I-CAR certification, and hiring an adjunct instructor to teach AUTB 100 as a prerequisite to other AUTB classes.</p>
<i>Obj. 4.3 Maintain up-to-date technology to support the curriculum and business functions.</i>	<p>The instructor stays in contact with Auto Body Repair shops and businesses involved in the industry to ensure students are trained using current industry-standard tools and methodologies. Vendors and industry professionals make regular visits to demonstrate new products and their use. A welding station and double-post car lift have been added. As sources of funding are identified, additional updated equipment will be needed to teach emerging green technologies.</p>

1.3 Enrollment

Automotive Body and Repair – Number of Sections Offered

Fall 2010	Spr 2011	Fall 2011	Spr 2012	Fall 2012	Spr 2013	Fall 2013	Spr 2014
5	4	4	5	4	4	4	4

Automotive Body and Repair – FTES per Semester

Fall 2010	Spr 2011	Fall 2011	Spr 2012	Fall 2012	Spr 2013	Fall 2013	Spr 2014
13.8	16.2	19.3	23.5	21.3	24.0	20.0	20.0

Automotive Body and Repair – Number of Students per Semester

Fall 2010	Spr 2011	Fall 2011	Spr 2012	Fall 2012	Spr 2013	Fall 2013	Spr 2014
23	25	30	35	32	35	30	30

Automotive Body and Repair – WSCH Totals

Fall 2010	Spr 2011	Fall 2011	Spr 2012	Fall 2012	Spr 2013	Fall 2013	Spr 2014
455	485	680	726	640	721	600	600

The Automotive Body and Repair program has offered four sections of Auto Body classes each semester since the fall of 2012 semester. These four sections are those required for the degree: AUTB 100, 101, 102, and 103. AUTB 110 *Special Projects* has not been offered as a fifth section since the Spring of 2012 semester.

The Automotive Body and Repair program routinely generates between 20 and 24 FTES each semester. The WSCH for the Auto Body classes for the last 5 semesters has been well over 525 in any given semester and the average Load is above 580.

Statewide budget cuts affected the college and the number of sections offered has dropped by nearly 24 percent over the past three years. Career Technical Education was one of the schools that experienced the largest reduction in sections offered. While the average college enrollment has dropped in the last few years the Auto Body program has consistently offered 4 sections with an average fill rate above 100%. The class maximum for the Auto Body classes is 24 and the lowest enrollment since Fall 2011 has been 30.

In addition to these numbers, approximately 15 students are turned away each semester due to class maximums and current faculty staffing. The hiring of an additional adjunct or full-time instructor in the future, classes can be offered during the evening and on weekends to support continued enrollment growth and potentially increase access.

These enrollment numbers have been achieved and maintained with only one instructor who was hired full-time in Fall 2011. Under the direction of the current instructor program has flourished, and contacts with area employers has increased.

The job outlook for careers in Auto Body Repair is projected to grow by over 16 percent in the next few years. Employers in the area are interested in hiring Solano Auto Body students as the reputation of the program has improved.

There is great potential for growth within this program. Growth in key economic clusters, including transportation, in Solano County, will spur growth in Career Technical programs. The program has seen a resurgence of interest from students entering the workforce as well as those looking for a second career as a result of separating from the military or retirement. This program is also a potential source of education for those seeking employment opportunities after release from prison.

1.4 Population Served.

Enrollment by Gender

The Auto Body program has a student population that is predominantly male with an average of less than 6% female students. There has been a slight increase in female enrollment from 4% to 7% in the past 4 years and the instructor would like to see this number increase. Women who enroll are known to perform consistently well in these classes.

The instructor strives for inclusiveness of underrepresented students and encourages female students to participate in the program. He reaches out to women in the community through Career Fairs and visits to the Auto Body Shop from local area high schools. He also helped to encourage women to participate in the program by working with the student newspaper *The Tempest* to feature an article about women in Auto Body and other traditionally male professions. The article included a cover photo of women enrolled in the program and quotes from female students who gave credit to their instructor for their ability to do well in the program.

Enrollment by Age

Students between the ages of 18 – 25 are consistently the largest age group in this program. Other age groups have not changed significantly, but worth noting is that enrollment of 31-40 year olds has decreased while the enrollment of students over 46 years increased from approximately 10% to 23%.

Reasons that may contribute to a lower enrollment in those over 31 may be attributed to an economic upswing and employment security causing people to remain in their current jobs. The increase in those over 45 may be a result of people retiring from the military and other occupations who are interested in learning a new skill for a second career.

Enrollment by Ethnicity

Populations served by this program have for the most part risen or remained steady overall. The enrollment of American Indian or Alaskan Native and Hispanic ethnic groups has remained stable over the past eight semesters. Asian Pacific Islander and White Non-Hispanic enrollment has risen steadily during this same time period.

Black Non-Hispanic student population groups have fluctuated which makes it difficult to identify a specific trend in enrollment. Enrollment for this group was 26% of the program in the Fall 2010 semester and then dropped to 9% by Fall 2012. Numbers rose again to 29% and 23% the next two semesters and dropped to 7% Spring 2014. These numbers should be observed and reevaluated at the next Program Review. To help this student population group, the instructor plans to work with appropriate college programs to increase enrollment.

1.5 Status of Progress toward Goals and Recommendations.

Table 2. Educational Master Plan

<i>Educational Master Plan</i>	<i>Status</i>
1. <i>Expand to include an evening and Saturday program/track</i>	Need to hire additional full-time faculty to support this recommendation. Current course workload is too high for adjunct faculty to teach courses.
2. <i>Incorporate technology and industry standards, including environmental, health and safety concerns, into program courses</i>	Eye wash stations have been added and the workshop space has been increased and reconfigured to provide a safer working environment for students. Welding and car lift areas have been added to teach current industry repair techniques. Funding is needed to continue to update tools and equipment purchased over 30 years ago and to incorporate green technology into the curriculum.

Table 3. Program Review Recommendations

<i>Program Review Recommendations (Previous Cycle)</i>	<i>Status</i>
1. <i>No Previous Program Reviews available for Evaluation</i>	N/A

1.6 Future Outlook.

The growing number of vehicles in use should increase overall demand for collision repair services during the next decade. The U.S. Bureau of Labor Statistics predicts employment of automotive body and glass repairers to grow 19% from 2010 to 2020

Job opportunities are projected to be very good for jobseekers with industry certification and formal training in automotive body repair and refinishing and in collision repair. The need to replace experienced repair technicians who retire, change occupations, or stop working for other reasons also will provide some job opportunities.

People separating from the military, leaving the prison system, retiring from other professions, looking for additional income or needing to learn job skills are interested in entering the Auto Body Repair Program. Those with formal training and industry certification should have very good job opportunities.

The program has seen resurgence in popularity with the addition of the new full-time faculty member and has great potential for program growth. Employers in the area are hiring our students as the reputation of the program has improved.

Growth in FTES and enrollment, projected industry trends and no competition in Solano County from educational providers suggests the potential for program expansion. Providing additional training opportunities during the evening and the weekends will support continued enrollment growth and potentially increase access. Incorporating technology into courses, reflecting industry standards, and providing hands-on learning opportunities will support student's success in future employment.

CURRICULUM DEVELOPMENT, ASSESSMENT, AND OUTCOMES

2.1 Program Level Outcomes

Program Level Outcomes	ILO (Core 4)	How PLO is assessed
1. Demonstrate knowledge of metal joining and straightening methods.	II. Critical Thinking and Information Competency A. Analysis D. Problem Solving	Performance on six welding tests given at the beginning and end of each semester: Plug Weld(vertical, overhead) Lap weld(vertical, overhead) Butt weld (vertical, overhead)
2. Inspect, remove, install, align panels, doors and trim to meet shop standards.	II. Critical Thinking and Information Competency A. Analysis B. Computation C. Research D. Problem Solving	Three panel alignment project given during the semester. The project must meet industry standards and be completed in a timely manner.
3. Determine type of paint; plan refinishing system; remove, prepare, seal and mask; apply coatings to vehicle.	II. Critical Thinking and Information Competency A. Analysis B. Computation D. Problem Solving III. Global Awareness C. Artistic Variety	Panel blend and complete body paint tests given at the beginning and end of each semester. Capstone project must be completed by the end of each semester.
4. Demonstrate correct use of chemicals within the shop environment.	I. Communication A. Read II. Critical Thinking and Information Competency B. Analysis C. Computation D. Problem Solving IV. Personal Responsibility and Professional Development A. Self-Management and Self-Awareness B. Social and Physical Wellness D. Problem Solving	Students are observed and assessed individually throughout the semester. A written chemical safety test is given and students are required to demonstrate they are using personal protection properly.
5. Work safely and responsibly within all safety and environmental guideline standards for a shop.	II. Critical Thinking and Information Competency A. Analysis D. Problem Solving IV. Personal Responsibility and Professional Development A. Self-Management and Self-Awareness B. Social and Physical Wellness	Students are observed and assessed individually throughout the semester. A written safety test is given and students are required to demonstrate they are using personal protection properly.
6. Identify and strategize career plans for employment in the auto collision field.	IV. Personal Responsibility and Professional Development Self-Management and Self-Awareness A. Social and Physical Wellness B. Workplace Skills	A written exam is given based on material covered in class.

2.2 Report on how courses support the Program Level Outcomes at which level (introduced (I), developing (D), or mastered (M))

Table 5. Program Courses and Program Level Outcomes

Course	PL01	PL02	PL03	PL04	PL05	PL06
<i>AUTB 100 Fundamentals of Auto Body Repair</i>	<i>I,D</i>			<i>I,D</i>	<i>I,D</i>	<i>I</i>
<i>AUTB 101 Spray Paint Theory and Techniques</i>	<i>D</i>		<i>I,D</i>	<i>D</i>	<i>D</i>	<i>D</i>
<i>AUTB 102 Automotive Body Panels and Frame Straightening</i>	<i>D</i>	<i>I,D</i>		<i>D</i>	<i>D</i>	<i>D</i>
<i>AUTB 103 Advanced Auto Body Repair and Painting</i>	<i>D,M</i>	<i>M</i>	<i>D,M</i>	<i>D,M</i>	<i>D,M</i>	<i>D,M</i>

2.3 Utilizing table 6, describe the results of the program level assessments and any changes/planned actions made based on the outcomes of program level student learning assessments.

Table 6. Program Level Assessments

Program Level Outcomes	Date(s) Assessed	Results	Action Plan
<i>1. Demonstrate knowledge of metal joining and straightening methods.</i>	<i>Fall 2013</i>	<p>90% of students received a C grade or higher on metal joining and straightening testing.</p> <p>Increased personal training would help to improve the quality of metal work and improve success rates.</p> <p>Students would benefit from updated equipment and materials to achieve better results and meet current industry standards.</p>	<p><i>The division plans to hire an Instructional Assistant which will create the possibility for increased personal instruction in this area.</i></p> <p><i>Purchase thinner metals to allow students to work with materials currently used in automobile manufacturing.</i></p> <p><i>Additional welders and TIG welding equipment would provide students the opportunity to work with the thinner metals, aluminum, and alloys.</i></p>

<p>2. <i>Inspect, remove, install, align panels, doors and trim to meet shop standards.</i></p>	<p>Fall 2013</p>	<p>95% of students received a C or better and were able to successfully demonstrate the ability to inspect, remove, install, align panels, doors and trim to meet shop standards.</p> <p>The ability to do well in this area is impeded by the lack of vehicles available for students to work on. At this time students are sharing parts and practicing on automobiles that have been previously worked on by other students. Students are not able to easily see the results of their individual efforts.</p>	<p>Providing additional personal and one-on-one instruction time will help students improve these skills.</p> <p>The purchase of additional vehicles will allow students to work on cars they have responsibility for.</p>
<p>3. <i>Determine type of paint; plan refinishing system; remove, prepare, seal and mask; apply coatings to vehicle.</i></p>	<p>Fall 2013</p>	<p>89% of the class were able to successfully receive a C or better on painting techniques.</p> <p>The paint booth is very outdated making teaching this portion of the class difficult. The paint booth heater does not work properly which makes consistent results difficult for students to achieve.</p>	<p>Current paint booths offer increased air flow to pull chemicals out of the paint booth. They also provide communication capabilities that would allow more students to be in the booth at one time.</p> <p>Currently only one or two students can use the booth at a time and students need more time in the booth to perfect their painting skills.</p> <p>A new heater in the paint booth is essential and necessary for students to achieve successful results in this area.</p>
<p>4. <i>Demonstrate correct use of chemicals within the shop environment.</i></p>	<p>Fall 2013</p>	<p>100% are able to demonstrate the correct use of chemicals within the shop environment. This is a health and safety standard that must be met by each student to remain in the program.</p>	<p>While success in this area is attained, the instructor plans to include additional written tests and demonstrations to reinforce instruction in this area.</p> <p>Plan to revise this PLO and merge with #5.</p>

<p>5. <i>Work safely and responsibly within all safety and environmental guideline standards for a shop.</i></p>	<p>Fall 2013</p>	<p>100% were able to demonstrate the correct use of chemicals within the shop environment. This is a health and safety standard that must be met by each student to remain in the program.</p>	<p>While success in this area is attained, the instructor plans to include additional written tests and demonstrations to reinforce instruction in this area.</p> <p>Plan to revise this PLO and merge with #4.</p>
<p>6. <i>Identify and strategize career plans for employment in the auto collision field.</i></p>	<p>Fall 2013</p>	<p>87% pass the career exam with a C or better. Preparing students for employment in the Automotive Body and Repair industry is an integral part of all instruction that occurs throughout the program. Students learn current shop techniques and work standards expected for successful employment in this field.</p>	<p>While employment in the Auto Repair field is the ultimate goal of this program, accessing this PLO is difficult to clearly define. The plan is to remove this as a PLO.</p>

2.4 Describe any changes made to the program or courses that were a direct result of program level assessments.

Based on assessments, the following changes have been incorporated to improve course instruction:

- The workshop has been enlarged to provide a safer and more up-to-date working environment.
- The frame rack used in the shop has been moved to a new and separate section. This creates a safer working condition by minimizing the number of students who could be potentially injured if an accident were to occur with the equipment.
- Double-post car lifts have been added to the workshop. The lifts are used to teach students how to safely lift cars off the ground and to perform undercar work as it is done in actual auto body shops.
- Eye wash stations that comply with OSHA regulations have been added in the workshop. The stations promote eye safety when working with compounds that are capable of producing adverse effects.
- A welding station with vertical overhead equipment has been added to the shop.
- Additional tools and upgraded equipment have been added for student use.
- Paint used in the paint booth has been updated to an environmentally green paint.
- The workshop has been increased by 2400 square feet for a total of 8000 square feet. This provides a safer and more efficient working environment for students than previously available.
- A complete 800 square foot welding station has been added to the workshop. A new welding allows students to learn how to do overhead and vertical welds and help to prepare them for iCar Certification.

Student Learning Outcomes

2.5 Current Status

Program SLOs are updated as necessary and being assessed yearly. The assessment results are providing an opportunity for the instructor to determine changes that need to be made.

Deficiencies noted and goals that have been set for improvement include replacing antiquated equipment to teach up-to-date technology and meet industry standards, hiring a lab assistant and an adjunct instructor to enable more one-on-one instruction.

2.6 Review

The Automotive Body and Repair program SLOs have recently been redeveloped and are accurate.

<i>Student Learning Outcomes</i>	<i>Core 4 Links</i>	<i>Assessment Tool</i>	<i>Changes Needed</i>
<p><i>AUTB 100 Demonstrate acquaintance with the basic skills and fundamental principles of auto body repair.</i></p> <p><i>AUTB 101 Identify paint defects during the paint application process and demonstrate how to prevent and cure surface defects.</i></p>	<p>I. Communication A. Read C. Listen</p> <p>II. Critical Thinking and Information Competency A. Analysis B. Computation C. Research D. Problem Solving</p>	<p><i>Students must read and listen to instruction to successfully pass the written and practical exams.</i></p> <p><i>Students must demonstrate the use of critical thinking and information competency skills to complete hands-on paint application process successfully.</i></p>	<p><i>Expand the welding program to accommodate more equipment and students.</i></p> <p><i>50% of students were able to complete pain application successfully.</i></p> <p><i>Updated and working equipment is needed for students to be able to better learn this skill.</i></p>
<p><i>AUTB 102 Identify and demonstrate the concepts required to align frames and unibody structures. Demonstrate preparation techniques for outer, welded panel replacement or structural unibody support panels and the installation of a replacement component. Describe and demonstrate corrosion preventative procedures in a repair area.</i></p>	<p>I. Communication A. Speak and Converse</p> <p>II. Critical Thinking and Information Competency A. Analysis B. Computation C. Research D. Problem Solving</p>	<p><i>Students take written and hands-on laboratory exams to successfully demonstrate knowledge of techniques and to show the ability to repair an automobile frame and weld panels.</i></p>	<p><i>70% of students performed very well. Students who did not succeed lacked motivation and time management skills. Additional one-on-one instruction and individual equipment needs to be provided.</i></p>
<p><i>AUTB 103 Students will expand and develop advance skills in their field of expertise; paint or frame repair.</i></p>	<p>II. Critical Thinking and Information Competency C. Research D. Problem Solving</p> <p>IV. Personal Responsibility and Professional Development A. Self-Management and Self-Awareness C. Workplace Skills</p>	<p><i>Students demonstrate success through hands-on lab environment. Students must apply critical thinking skills and a personal responsibility for professional development to show advancement.</i></p>	<p><i>2-3 students were successful in the class. Additional one-on-one instruction needs to be provided to increase these numbers.</i></p>

<p><i>AUTB 110 Expand skills and fabrication and problem solving in the automotive industry.</i></p>	<p><i>II. Critical Thinking and Information Competency</i> <i>A. Analysis</i> <i>B. Computation</i> <i>C. Research</i> <i>D. Problem Solving</i></p>	<p><i>To be successful students must analyze, perform calculations, research, problem solve, and demonstrate skill expansion through hands-on examination in a lab environment.</i></p>	<p><i>Update the lab with new equipment so that students have access to industry standard equipment.</i></p>
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2.7 Changes

Describe any changes made to the program or courses that were a direct result of student learning outcomes assessments.

Current understaffing and lack of equipment prevented planned action for these student learning outcomes. The instructor did incorporate additional group activities and paired more experienced students with students who needed additional assistance.

Curricular Offerings

2.8 Course offerings.

The following is a list of courses offered by the Automotive Body and Repair program. They have remained largely unchanged since the program's inception.

Automotive Body and Repair Course Descriptions

AUTB 100 10 Units

Fundamentals of Auto Body Repair

Course Advisory: SCC minimum English standard.

Acquaints the student with the basic skills and fundamental principles of auto body repair.

Learned skills are verified through manipulative and written tests.

Five hours lecture, fifteen hours lab.

AUTB 101 10 Units

Spray Paint Theory and Techniques

Prerequisite: AUTB 100. Course Advisory: SCC minimum English standard.

Acquaints the student with the basic principles and techniques of automotive refinishing.

Skills acquired are verified through manipulative projects and written tests.

Five hours lecture, fifteen hours lab.

AUTB 102 10 Units

Automotive Body Panels and Frame Straightening

Prerequisite: AUTB 100.

Students will learn to repair and replace body panels. Includes unibody and frame straightening.

Learned skills are verified through manipulative projects and written exams.

Five hours lecture, fifteen hours lab.

AUTB 103 10 Units

Advanced Auto Body Repair and Painting

Prerequisite: AUTB 101, 102.

Students are exposed to the fine details of automotive body repair.

Excellence and precision of skills are refined and quality work is emphasized.

Students demonstrate their achievements through manipulative projects and written tests.

Five hours lecture, fifteen hours lab.

AUTB 110 3 Units

Special Projects

Prerequisite: AUTB 103.

Advanced projects undertaken by students in their field of specialization, under supervision of the instructor.

Two hours lecture, three hours lab.

Changes to course offerings that have occurred within the program in recent years:

- IT 150 *Industrial Processes* has not been offered since 1995 due to lab closure and was made inactive in Spring 2011. IT 101 *How Things Work* has been substituted for IT 150 for those seeking a degree in Automotive Body and Repair.
- AUTB 110 *Special Projects*, while still active at this time, is no longer being offered. Few students remained in the program long enough to participate in the class and gave the instructor less time to devote to required program courses.

A plan is being devised for the future to rewrite the Automotive Body and Repair curriculum to 3 unit courses rather than the current 10 unit blocks. We are considering making AUTB 100 a prerequisite to additional AUTB classes and plan to create low unit stackable certificates so that fewer students leave the program before completing a certificate or degree.

A transfer degree is not applicable to this Program. Due to equipment costs, there are no plans to expand the program to off-campus centers at this time.

2.9 Fill rates/Class size.

The fill rate for the Automotive Body and Repair classes has averaged 114% over the last 8 semesters and has been steadily growing since the fall of 2011. The fill rate is due in part by the increase in economic stability, a strong occupational outlook for the industry, and as a result of people entering the workforce and others retiring and beginning a second career.

Currently all four Auto Body classes are taught in the morning at one time. Enrollment is limited due to workshop space and having only one instructor. While the class maximum enrollment is 24, the class routinely has 30 or more students and approximately 15 students are turned away each semester.

In order to accommodate additional students, short-term plans include hiring an adjunct instructor to teach the AUTB 100 class in the afternoon. This would allow the full-time instructor to add additional students to the remaining AUTB 101, 102, and 103 classes in the morning.

If the program wishes to expand further more equipment will need to purchase and space provided. Additional faculty will need to be hired to include a night or weekend program to further increase enrollment possibilities for students.

2.10 Course sequencing.

The Auto Body courses in this program are sequenced for student progression, while the two Industrial Technology courses are not sequenced.

Students begin with AUTB 100 Fundamentals of Auto Body Repair as a prerequisite to both AUTB 101 Spray Paint Theory and Techniques and AUTB 102 Automotive Body Panels and Frame Straightening.

After taking AUTB 101 and AUTB 102, the student is able to take AUTB 103 Advanced Auto Body Repair and Painting.

IT 140 and IT 101 (which is currently substituted for the required, yet archived IT150) do not have prerequisites and can be taken as needed.

Students are informed of this progression through information provided by the instructor and in the college catalog. The curriculum is not being offered as efficiently as it could be for program completion.

Students are often able to find employment with the skills they acquire before finishing the current sequence of courses. We plan to revise curriculum so that students would be able to obtain stackable certificates or their degree in a shorter period of time.

2.11 Basic Skills (if applicable).

Many of the students that enter the Automotive Body and Repair program are potentially basic skills students and the need to develop a contextualized basic skills math and English class has been identified by the faculty.

2.12 Student Survey.

A student survey has not been utilized prior to this Program Review. A survey has been created and will be distribute in Fall of 2014 and this question will be answered during the next Program Review.

2.13 Four-year articulation (if applicable).

N/A

2.14 High school articulation (if applicable).

There are no area high schools currently offering Automotive Body and Repair courses.

2.15 Distance Education (if applicable).

N/A

2.16 Advisory Boards/Licensing (CTE) (if applicable).

Advisory board meetings were not held prior to the current instructor. While faculty have met informally to discuss program issues, at this time, only one formal meeting has been held. Plans have been made to hold official advisory board meetings twice a year going forward. Members in attendance included Solano Community College faculty members Dan Ulrich (AUTB), Mark Berrett (CIS), Jeff Kissinger (WELD), Automobile Insurance representative Jim Pouliot (CSAA), and Greg Matthews (Graphic Auto Body).

Discussion occurred regarding incorporating Wyotech repair training into the current curriculum. The consensus of the group was to not use Wyotech teaching materials. The program offers automotive repair theory but the committee did not find it provided adequate hands-on training for students.

STUDENT EQUITY & SUCCESS

3.1 Course Completion and Retention.

The instructor of the Automotive Body & Repair is committed to preparing students for gainful employment in the Auto Repair industry. He has worked hard to renovate a department that had fallen in disarray. The workshop has been renovated to emulate an actual auto body shop for students to work in and equipment and tools have been updated as funding has been made available. Industry contacts have been developed and students from our program are considered desirable employees due to the level of instruction they now receive.

Very few students received a certificate or degree from the program. Students are able to find employment before they complete the 46-unit major or 67-unit degree. The curriculum will need to be revised from its current state to allow students to obtain certificates that will work to prepare them for employment.

The last 2 semesters have realized a greater than 50% persistence rate. The number of students each semester in the entire program is approximately 30 students due to the amount of overseeing required for student success. These numbers make it difficult in some cases to identify trends as the slightest change can skew the data.

Having noted this, some trends that we can see are that American Indian or Alaskan Native and Hispanic students are generally the most successful in class with lower success rates noted among African-American and Asian students and somewhat lower success rates among students aged 26-30 and over 46.

Gender pass rates were highly variable semester to semester. We need to attract more women in this area of non-traditional employment for women. Women in the program tend to excel in class and this is an area in which women could potentially own a shop and be successful.

The instructor takes the time to work with students trying to succeed. He plans to bring in additional materials and projects to motivate students. He refers students who do not seem ready to Counseling and other Student Services as needs are identified.

In the future as faculty and staff are hired it may be of benefit to look to underrepresented and diverse groups to bridge some of the differences in student success.

The instructor plans to continue to make everyone feel included

3.2 Degrees/Certificates Awarded (if applicable).

Automotive Body and Repair—Number of Associate in Science Degrees awarded

2008-9	2009-10	2010-11	2011-12	2012-13
0	0	0	0	1

Automotive Body and Repair—Number of Certificates of Achievement awarded

2008-9	2009-10	2010-11	2011-12	2012-13
1	2	3	1	0

There are no more than 1-3 certificates or degrees awarded each semester. The degrees and certificates were all awarded to males. Females are enrolling in the program and doing very well. It is expected that these numbers will shift as women complete coursework and earn certificates and degrees. The one AS degree awardee was Vietnamese, and remaining certificates were awarded equally to each of the ethnicities tracked.

Fewer students are getting degrees than the number being hired from the program. The department is looking at this low number and looking to develop short-term stackable certificates students can obtain for employment.

3.3 Transfer (if applicable).

N/A

3.4 Career Technical Programs

Students are prepared for employment in the automotive body repair field by having the opportunity to learn and work in an authentic workshop setting. Students are taught auto body repair techniques, including welding, frame aligning, panel replacement, and auto body painting.

Outdated and ill-working equipment, lack of additional staffing, and insufficient classroom space hinders teaching current technology techniques that would better serve our students for employment.

The instructor has made extensive contacts with nearby and local Automotive businesses and developed an internship program which has resulted in temporary and permanent employment for many students.

Advisory committee experts have been consulted to analyze the program. Plans have been made to continue this practice to assist in identifying meeting student educational needs.

PROGRAM RESOURCES

4.1 Human Resources.

Current staffing of one instructor is inadequate to meet student demand. Approximately 15 students are not able to enter the program each semester for daytime classes. Current plans are in place to hire a laboratory assistant to help provide additional instructional support and one-on-one time with students. Additionally, an adjunct instructor will be hired to teach the AUTB 100 class. This will allow the current instructor to enroll additional students in the remaining AUTB 101, 102, and 103 classes. In order for the program to grow, a full-time instructor needs to be hired to add night and weekend classes for students needing alternative scheduling.

4.2 Current Staffing.

The current instructor has revitalized a program that had been neglected for some time. He has revamped the workshop and teaches strong workplace skills to help students successfully work in an auto body repair shop. He has made the shop a safer working environment for students by reducing the number of students that work near hazardous machinery. He teaches and requires safe equipment and chemical handling.

The work ethic and workplace skills of students leaving the Auto Body program have given Solano College a good reputation in the community. Through his development of local business relationships, students have been placed in shops and proven to be capable and competent employees.

In addition to developing relationships with local businesses, the instructor hosts the annual automobile car show at the Solano Career Education Fair. This show draws a lot of interest from the community and local newspapers and also promotes Solano College as a desirable learning institution.

4.3 Equipment.

To meet the need of Program and Student Learning Outcomes the following equipment is needed:

PLO 1:

- Additional welders and TIG welding equipment is needed to allow students to work with thinner metals, aluminum, and alloys currently used in automobile construction.

PLO 2:

- Additional vehicles are needed for student to work on. Currently students must share automobiles and work on cars already worked on by previous students.
- Updated panel beaters are needed for students to adequately learn how to repair panels.

PLO 3:

- The heater of the current paint booth needs to be replaced as it is not working well enough to provide sufficiently successful results.
- The paint booth in use is approximately 30 years old and must be replaced to provide a safer learning environment for students. The current paint booth does not provide adequate

air flow to pull chemicals out of the paint booth. A new paint booth will provide the opportunity to be able to teach updated green painting techniques.

4.4 Facilities.

Current facilities do not provide an adequate teaching area. The classroom space is not soundproofed which makes it extremely difficult for the instructor to effectively instruct students. Students do not have the tools necessary to research and make repair estimates. A smart classroom with computers for students is needed to allow students to learn this vital automobile repair skill. A dedicated paint and detail area needs to be added to provide adequate space for this vital skillset.

4.5 Budget/Fiscal Profile.

Prior to 2011 the program was stagnant. Since that time additional funding through the use of Perkins funding has been used to support and enhance the program and has paid for the instructor's salary. The instructor has been proactive in assessing the needs for equipment and supplies for his program.

PROGRAMMATIC GOALS & PLANNING

5.1 Summarize what you believe are your program's strengths and major accomplishments in the last 5 years. Next, state the areas that are most in need of improvement.

Prior to the hiring of current instructor in Fall 2011, the program had fallen in disarray. The new instructor has brought new life to the program. He cleaned up the workshop and revamped the program with additional space, updated instruction, and new equipment. The instructor has developed valuable industry and community relationships. Students coming from the program are seen as desirable employees who have learned automobile body repair and painting techniques and to develop a strong work ethic.

Areas most in need of improvement are:

- Updated Equipment
- Number of faculty
- Revised Curriculum
- Stackable Certificates
- Paint Booth
- Smart Classroom

5.2 Based on the self-study analysis, prioritize the program’s short (1-2 years) and long term goals (3+ years). Check whether the goal requires fiscal resources to achieve.

Table 8. Short-Term and Long-Term Goals

<i>Short-Term Goals</i>	<i>Planned Action</i>	<i>Target Date</i>	<i>Person Responsible</i>	<i>Source</i>
1. Hire Instructional Assistant	Add instructional assistant in AUTB classes to provide students with additional one-on-one instruction	August, 2014	Dean of Applied Technology & Business	DB
2. Complete Curriculum Review	Modify 10 unit courses to lower unit courses to provide attainable stackable certificates	August, 2014	Dean of Applied Technology & Business	NR
3. Modify A.S. Degree and Certificate	Ensure Curriculum Committee reviews and approves program and course modifications	September, 2014	Dan Ulrich	NR
4. Update PLOs	Merge PLO #4 and #5 Remove PLO #6	September, 2014	Dan Ulrich	NR
5. Hire adjunct instructor	Submit hiring request and begin hiring process for adjunct to teach AUTB 100 in the afternoon as a feeder class to AUTB 101, 102, and 103	October, 2014	Dean of Applied Technology & Business	DB
6. Purchase Paint Booth heater	Provide a quote and create requisition for Paint Booth heater	October, 2014	Dan Ulrich	P

<i>Long-Term Goals</i>	<i>Planned Action</i>	<i>Target Date</i>	<i>Person Responsible</i>	<i>Source</i>
<i>1. Offer classes at alternate days and times</i>	<i>Include an evening and Saturday program/track</i>	<i>January, 2016</i>	<i>Dan Ulrich</i>	<i>NR</i>
<i>2. Grow nationally recognized I-CAR certification</i>	<i>Purchase curriculum to incorporate into program classes</i>	<i>May, 2016</i>	<i>Dan Ulrich</i>	<i>NR</i>
<i>3. Add smart classroom</i>	<i>Remodel or expand auto body workshop to include classroom adjacent to work area</i>	<i>January, 2017</i>	<i>Facilities – Measure Q</i>	<i>SP</i>
<i>4. Provide computers for students to use in the classroom</i>	<i>Contact IT for specifications and quote, prepare requisition to purchase computers and have IT install.</i>	<i>January, 2017</i>	<i>Dan Ulrich</i>	<i>SP</i>
<i>5. Purchase New Paint Booth</i>	<i>Provide a quote and create requisition for Paint Booth and arrange installation</i>	<i>May, 2017</i>	<i>Dan Ulrich</i>	<i>SP</i>

In the source column denote “SP” for Strategic Proposals, “DB” for Department Budget, “P” for Perkins or “NR” for No Additional Resources Needed.

Autobody Program

Autobody Advisory Board Minutes

April 14, 2014

Participants:

Dan Ulrich, Autobody Instructor
Greg Matthews, Owner Graphic Autobody
Jim Patterson, CSAA Supervising Adjuster
Jeff Kissinger, Welding Instructor
Nicholas Battisle, Autobody Student

Topics:

- How to better prepare students for the Autobody profession
- Estimating Program
- I-Car Certification
- Autobody Equipment

Dan was advised at the meeting by Greg Matthews that providing additional instruction on theory and fabrication might help students be better prepared for jobs in Autobody industry. He said that students he hired from Solano's Autobody Program did extremely well in practical hands-on tasks and working also with plastic and metal. He suggested areas of theory that could be covered would include the mixing of products (such as paint).

Greg and Jim Patterson recommended that an Estimating Program be incorporated into the Autobody Program. Students would learn how to diagnose the types of repairs needed and estimate the costs of repairs. They would also learn how to fill out insurance and other paperwork needed for insurance companies.

They also suggested looking into developing I-Car Certification curriculum through the college. I-Car certifications require students to learn the theory and practical application of suggested repair methods for the collision repair industry. Employers are more willing to hire a student who has completed some of the I-Car certifications because it shows that the student is motivated to work in the field.

Jeff Kissinger and Nicholas Battisle both commented on the antiquated equipment students need to work on in the Autobody shop. Some of the equipment such as the paint booth are from 1970 when the program began. Student also do not have access to a mixing room to mix products.