www.westerncenter.org

Autobody/Collision and Repair Technology/Technician

CIP 47.0603

Instructor: Mr. Charles Smith

csmith@westerncenter.org

Have Questions?
Contact: Mrs. Landis or Mrs. Powers– School Counselors
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***Additional information about these items can be found in the student handbook .**

Western Montgomery Career and Technology Center

Mission Statement

The Mission of the Western Montgomery Career and Technology Center is to prepare quality citizens for lifelong productivity in a challenging and changing world by forming innovative partnerships among family, school and community. In addition to preparation for direct entry into the workforce, WMCTC students are prepared to enroll in college studies. Many two- and four-year institutions offer programs of study which complement the occupational and technical areas offered at WMCTC.

BELIEFS

We believe in valuing the diversity of each student

We believe education leads to opportunity

We believe quality education starts with quality leadership

We believe a career and technical education is a critical component of workforce development

We believe technology is vital to learning and will help students connect with a rapidly changing world

We believe technology must be embraced by teachers as a tool to help prepare students to meet current and future labor market demands

We believe in providing all students with a positive educational experience

We believe students should feel proud of what they have accomplished each day

We believe students will be provided the opportunity to achieve their highest potential

We believe students will be pTraining emphasizes hazard identification, avoidance, control and prevention, not OSHA standards.

Instructor - Mr. Charles Smith Hire Year: 2009

Biography

Originally from Southern Chester County, I relocated to this area with my wife in 2003.My Collision repair career began at a very early age as I worked with my Father and Grandfather at the family Body Shop. I have worked in the industry for

over 30 years minus a 4 year period I served in the U.S. Navy.

Education

Temple University- Vocational II Instructional Certification

rovided the opportunity to acquire and cultivate leadership skills

We believe in providing students with a safe school environment

We believe the success of a student is enhanced by parents and/or other influential adults through their support and involvement

We believe in encouraging students to maintain a lifelong affiliation with the school

We believe change is an ongoing process, not an event, and is fundamental for building quality programs of study

We believe instruction must accommodate individual student learning styles

Autobody/Collision and Repair Technology/Technician

Program Description

Offered for 9th, 10th, 11th, and 12th graders, the Collision Repair Program is designed for students interested in pursuing employment in the field of Collision Repair. Students have the opportunity to gain entry-level skills required for this profession. These skills are acquired through classroom presentations, textbook readings, and hands-on experiences. Students use hand tools and power tools to perform the various hands-on training activities. The Collision Repair program covers instructional areas such as: safety instruction, estimating, customer relations, and frame and unibody repair. Students are also instructed in metal straightening; welding and cutting; panel replacement and alignment; surface preparation; masking and painting. During the course, students are expected to develop job acquisition skills. The importance of safety, quality, productivity, and teamwork is emphasized in this program. Students in this program should have patience and attention to detail. Additionally, Collision Repair follows the I-CAR (Inter-Industry Curriculum of Automotive Repair); Certification Program.

Job Titles- Career Pathways

13-1032 Insurance Appraisers, Auto Damage

41-2022 Parts Salespersons

49-3021 Automotive Body and Related Repairers

49-9042 Maintenance & Repair Workers, General

51-9122 Painters, Transportation Equipment

CTC Knowledge transfers to college credits at:

Thaddeus Stevens College of Technology

Student Certifications

NOCTI - National Occupational Competency Testing Institute Certification

I-CAR - Inter-Industry Conference on Auto Collision Repair

OSHA 10- The 10-hour training program is primarily intended for entry level workers.All outreach training is intended to cover an overview of the hazards a worker may encounter on a job site.

Certifications & Awards

I-CAR Platinum Educator

PA motor vehicle damage appraiser

ASE-Certified Master Collision Repair Technician

MACS 609 Certification

Work Experience

I have worked in the Collision Repair field for 20 years prior to shifting into Vocational Education in 2002 where I spent 5 years at the Center for Arts and Technology, Pickering campus. I came to WMCTC in 2009.

Besides a 4 year period after high school where I was in the Navy my entire work career has been working in or teaching collision repair.

Dear Parents,

I would like to introduce myself and the Collision Repair program (CL) that I will be instructing. My Name is Charles Smith.

Students enrolling in Collision will be instructed trade skills through a hands on learning and classroom instruction / demonstration process. This instructional format will allow students to experience the how and why we use specific procedures within class projects. Coupled with hands-on learning, each student will receive individual attention with a focus on theory and skill development. The additional theory to be addressed includes basic mathematical, logical, scientific, and verbal skills.

As a course that prepares students for working in a professional field, students are expected to maintain professional and responsible work ethics and habits. Students should arrive on time to class and be prepared for instruction. Additionally, students are expected to interact with peers in a respectful manner.

The Collision program has a mandatory uniform procedure. Students are expected to wear the CL approved work shirts, Black dickie style pants and leather boots everyday. This uniform reflect the industry standard in the Collision career field. Time will be made available for students to change every day.

I look forward to meeting the new students, and being in touch with you. I appreciate your involvement in your child's learning. If you have any questions please do not hesitate to contact me at 610-489-7272 or by email at csmith@westerncenter.org.

Sincerely,

Mr. Charles Smith

Collision Instructor

Collision Repair Behavior and Safety Procedures

1. You must wear safety glasses once you have entered the shop
2. Leather boots are required for all students everyday.
3. No running, throwing items or horseplay will be tolerated.
4. In case of an injury, regardless of severity, it must be reported to the instructor

Collision Repair Tool and Equipment List

Students enrolled in the Computer Information Systems Program will receive instruction on how to safely use the following tools and equipment. Students will be tested on the proper use of equipment and general safety. Each student must pass these safety tests with a 100% before having authorization to use the equipment. Students are expected to treat equipment with utmost respect and follow all safety guidelines immediately when entering the program.

The following is a list of tools on which each student will receive instruction:

- Hand tools
- Welders
- Spray equipment
- Hammers and dollies
- Frame straightening equipment
- Lifts and jacks
- Sanders
- Buffer / polishers

Western Montgomery Career and Technology Center Grading

Grade Scale

100 – 93 (A) Excellent

92 – 85 (B) Above Average

84 – 77 (C) Average

76 – 70 (D) Below Average

69 – 0 (F) Failing

Grading

Technical education involves more than academic work, therefore, it becomes necessary to consider other factors when grading students. Attitude, knowledge and skills are prime factors in determining the grades of technical students. Students will have the opportunity to improve their performance rating in regards to competencies as determined by the technical instructor.

Teachers will gladly discuss a student's progress at any time. A grade record sheet and anecdotal record sheet are kept on every student. Grades are recorded as numerical grades. The school term is divided into two (2) semesters or four (4) marking periods.

Report cards give an objective measure of the pupil's performance and also give some indication of the following student attributes:

- Academic growth.
- Predicted ability to succeed.
- Ability to extend or limit future educational plans.
- Self-concept.
- Student's reliability.

→ COMPUTATION OF QUARTERLY GRADES- PROCEDURES

When computing quarterly grades, 3 major areas will be considered: Theory/Knowledge, Skill Development, and Work Attitude. A breakdown of sample criteria under each main heading follows:

1. THEORY/KNOWLEDGE – 30% of grade

Tests will be the main factor when calculating the theory grade. This portion of the grade will include:

• Written and/or oral tests and quizzes

• Written and/or oral reports

• Homework assignments

2. SKILL – 40% of grade

This portion of the grade will include:

• Demonstration of safety practices

• Projects – quality of work

• Basic skills competencies

• Procedures

• Operation of equipment

3. WORK ATTITUDE – 30% of grade

This portion of the grade will include:

• Working independently and without need for constant supervision and direction

• Staying with and following tasks through completion

• Coming to class prepared

• Participating in lab cleanup

• Showing interest, initiative and pride in work

• Respecting the authority of school staff

• Respecting the rights of others and working cooperatively with others

• Taking pride in personal appearance and dressing appropriately for the program

• Maintaining good attendance

To derive at a quarterly grade, the instructors will assign the above weighting to each of the 3 categories. The final course grade will be derived by the following: Qtr. 1 (20%), Qtr. 2 (20%), Qtr. 3 (20%), Qtr. 4 (20%), Final Exam (20%)

Program of Study Task Tracking Syllabus

The student's level of achievement for each skill/task listed on the program's task grid is tracked continuously. Task evaluation is updated on a weekly basis as a student completes skills/tasks. Students and parents shall be provided an up-to-date skill evaluation upon request and upon completion of the program. Perspective employers are encouraged to review a student's task grid to supplement the student's transcript. These skill/task grades are also used to determine the awarding of articulated credits at postsecondary institutions. This task grid is retained as part of the student's permanent performance record. The following evaluation criteria will be used and recorded when assigning the level of skill achievement for the various Program of Study tasks:

Below Basic - Student requires close supervision to complete the skill/ task. Full retraining and practice of the task/skill is required

Basic - (Pre-Entry Level) Students require limited supervision to complete the skill/ task. Some additional training and practice is required.

Competent - (Entry Level) Student is minimally competent and able to perform skill/task independently, to industry standards, and without supervision.

Advanced - Student is proficient and has mastered skill/task. Student is considered highly-qualified for entry-level employment

Grading System:

Students' grades are reported to their respective high schools based on a numerical percentage. Students are expected to must maintain a minimum grade of 70% in their technical program to return the

following year. Students that fail may repeat their level, only if there is space in that particular classroom program level for the upcoming year. The WMCTC does not hold seats for students that failed the previous school year.

Incomplete Grades:

WMCTC Joint Committee Policy 213 individual teachers may assign an incomplete grade in any marking period except the fourth. An incomplete grade may be assigned to allow a student additional time to complete specific work or

assignments. All make-up work must be completed prior to the end of the second week of the next marking period. For example, an incomplete grade assigned in the first marking period must be satisfied by the second week of the second marking period. An incomplete grade cannot be assigned as a fourth marking period grade, final exam grade and/or final grade. Students who do not complete assigned work as scheduled will receive an “F”.

Western Montgomery CTC

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Task List

Task Number	Description	Hours	Level
	State Approved Program of Study		
PA100	**Safety**		
PA101	**Follow general shop safety rules.**		

PA102	**Use of personal safety devices and clothing.**		
PA103	**Locate and identify fire extinguishers.**		
PA104	**Locate and operate emergency switches.**		
PA105	**Explain fire and tornado drill procedures.**		
PA106	**Demonstrate proper handling of hazardous materials.**		
PA107	**Follow proper chemical disposal techniques.**		
PA108	**Operate shop and spray area ventilation systems.**		
PA109	**Identify and follow rules for care and safe use of hand tools.**		
PA110	**Identify and demonstrate safe and proper use of power tools and equipment.**		
PA111	**Identify the proper methods and options for safely moving vehicles in the shop area.**		
PA112	**Identify information on Safety Data Sheets (SDS).**		
PA113	**Demonstrate the ability to secure vehicles on jack stands and/or hydraulic lifts.**		

PA200	**Vehicle Design and Construction**		
PA201	**Identify the differences between various vehicle construction types.**		
PA202	**Identify and describe structural and nonstructural panels of a unibody vehicle.**		
PA203	**Determine the various materials used in vehicle construction.**		
PA300	**Panel Replacement and Alignment**		
PA301	**Identify the principles of full or partial panel replacement (bonded, bolted, welded, or riveted).**		
PA302	**Remove, reinstall, and align bolt on panels.**		
PA303	**Remove and reinstall wheel/tire assembly.**		
PA304	**Aim headlights using mechanical aiming equipment.**		
PA305	**RESERVED**		
PA400	**Trim and Hardware**		
PA401	**RESERVED**		
PA402	**Determine types of fasteners.**		

PA403	**Remove and replace adhesive-held molding and trim.**		
PA404	**Remove and install seats.**		
PA405	**RESERVED**		
PA406	**Remove and install interior parts and hardware.**		
PA407	**Remove and install exterior parts and hardware.**		
PA408	**Remove and install exterior trim, moldings, and emblems.**		
PA500	**Metal Finishing**		
PA501	**Select proper metal straightening tools.**		
PA502	**Evaluate stretched metal for repair.**		
PA503	**Demonstrate weld-on nail gun to repair sheet metal.**		
PA504	**Repair metal to meet industry standards.**		
PA505	**Explain the characteristics of aluminum repair and tools required.**		
PA600	**Body Fillers**		

PA601	**Select correct body filler and tools.**		
PA602	**Prepare surface for body filler.**		
PA603	**Mix and apply body filler.**		
PA604	**Sand body fillers to correct contour.**		
PA700	**Glass and Hardware**		
PA701	**Remove and reinstall a door window regulator.**		
PA702	**Remove and reinstall moveable door glass.**		
PA703	**Describe the removal and replacement of stationary glass.**		
PA800	**Structural Component Repair and Damage Analysis**		
PA801	**Classify the various types structural damage a vehicle can sustain.**		
PA802	**Interpret body dimension specifications.**		
PA803	**Use a tram gauge to diagnose vehicle length and width damage and X measurements of body or frame.**		
PA804	**Diagnose vehicle height with datum line gauges.**		

PA805	**Identify various measuring systems.**		
PA806	**Identify repair methods for vehicles with diamond damage, twist, sag side swag, or mash.**		
PA900	**Structural Straightening**		
PA901	**Mount and anchor vehicle to a pulling system.**		
PA902	**Measure vehicle structure and analyze data.**		
PA903	**Interpret data to make a structural pull back to factory specs.**		
PA1000	**Corrosion Protection**		
PA1001	**Identify corrosion causes and OEM corrosion protection.**		
PA1002	**Apply repair methods for corrosion protection.**		
PA1003	**RESERVED**		
PA1004	**Demonstrate the application of seam sealers.**		
PA1100	**Welding**		
PA1101	**Identify different methods of attaching components (MIG welding, squeeze type resistance spot welding (STRSW), structural**		

	adhesive, silicon bronze, etc.)		
PA1102	**Demonstrate personal safety practices.**		
PA1103	**Set up and tune the MIG welder.**		
PA1104	**Complete a butt joint with backing in various welding positions.**		
PA1105	**Complete an overlap weld in various positions.**		
PA1106	**Complete a plug weld in various positions.**		
PA1107	**Define protection of adjacent panels, glass, vehicle interior, etc. from welding and cutting operations.**		
PA1200	**Cutting Processes**		
PA1201	**Identify cutting processes.**		
PA1202	**Demonstrate sheet metal cutting processes.**		
PA1300	**Refinishing and Equipment Safety**		
PA1301	**Explain various environmental regulations.**		
PA1302	**Locate hazardous warning information.**		

PA1303	**Select and inspect personal protection equipment (PPE).**		
PA1304	**Demonstrate safe painting practices.**		
PA1305	**Identify personal health and safety hazards.**		
PA1400	**Automotive Finishes**		
PA1401	**Describe the difference between paint systems (water borne, solvent, multi- stage).**		
PA1402	**Describe causes and cures of paint defects.**		
PA1403	**Identify various undercoats.**		
PA1404	**Identify various topcoats (single stage, basecoat/clearcoat, tricoat, quadcoat).**		
PA1500	**Surface Preparation**		
PA1501	**Demonstrate proper steps to pre-wash entire vehicle.**		
PA1502	**Use wax and grease remover.**		
PA1503	**Demonstrate proper use of sanding and featheredging techniques.**		
PA1504	**Wet, sand, and featheredge.**		

PA1505	**RESERVED**		
PA1506	**Locate and obtain the vehicle paint code.**		
PA1507	**Apply undercoats.**		
PA1508	**Prepare panels for blending.**		
PA1509	**RESERVED**		
PA1510	**Identify masking materials.**		
PA1511	**Perform masking.**		
PA1512	**Select the appropriate abrasive.**		
PA1600	**Refinishing Equipment and Paint Area**		
PA1601	**Operate the spray booth.**		
PA1602	**Maintain the paint mixing area.**		
PA1603	**Set up, test, and adjust spray guns.**		
PA1604	**Inspect, clean, and determine conditions of spray guns and equipment.**		

PA1605	**Select and use the National Institution of Safety and Health (NIOSH) approved personal painting/refinishing respirator system.**		
PA1700	**Refinishing Operations**		
PA1701	**Prepare surface for topcoat system (degrease and tack).**		
PA1702	**Apply primer-sealer.**		
PA1703	**Apply single-stage finish.**		
PA1704	**Apply basecoat/clearcoat finish.**		
PA1705	**Describe the application of stone chip-resistant coating to lower body areas.**		
PA1706	**Demonstrate paint manufacturer's mixing ratio when preparing paint products.**		
PA1800	**Blending Operations**		
PA1801	**RESERVED**		
PA1802	**Blend basecoat/clearcoat finish.**		
PA1803	**Tint and blend color coat.**		

PA1900	**Detailing**		
PA1901	**Remove overspray.**		
PA1902	**Clean exterior of vehicle.**		
PA1903	**Clean interior of vehicle.**		
PA1904	**Apply decals and stripes.**		
PA1905	**Demonstrate color sanding and polishing techniques.**		
PA1906	**Clean body openings.**		
PA1907	**Clean exterior and interior glass surfaces.**		
PA2000	**Estimating Damage Analysis**		
PA2001	**Identify vehicle by vehicle identification number (VIN).**		
PA2002	**Collect vehicle and customer data.**		
PA2003	**Use collision estimating guides/estimating software.**		
PA2004	**Identify different types of vehicle damage (direct and indirect).**		

PA2005	**Indicate repair and replace decisions.**		
PA2006	**Prepare an estimate/repair and sequence/calculate repair costs/supplements.**		
PA2007	**Explain the need for a pre-repair scan and post-repair scan of the vehicle computer.**		
PA2100	**Plastic Repair**		
PA2101	**Identify plastic to make repair decisions.**		
PA2102	**Use plastic repair methods (adhesives and welding).**		
PA2103	**Repair plastics with two-part adhesives, with and without reinforcement.**		
PA2104	**Research recommended repair processes for bumper cover repair on Advance Driver Assistance System (ADAS) vehicles.**		
PA2200	**Restraint Systems**		
PA2201	**Research auto manufacturers' recommended safety procedures to prevent accidental deployment of supplemental restraint systems.**		
PA2202	**Identify supplemental restraint systems.**		
PA2203	**Remove and reinstall seat belt components.**		

PA2300	**Advanced Technology**		
PA2301	**Explain function and components of the Advance Driver Assistance System (ADAS).**		
PA2302	**Describe precautions required when working on high voltage vehicles.**		

Career and Technical Student Organizations (CTSO)

All students enrolled in Western Montgomery Career & Technology Center have the opportunity to participate in at least one Career & Technical Student Organization (CTSO) while enrolled at the CTC. Students who become members in these co-curricular organizations have the opportunity to participate in team building, leadership, community service and social events.

FCCLA - Family, Career and Community Leaders of America

FCCLA builds strong leaders and addresses important personal, family, work, and societal issues through family and consumer sciences education. PA Family, Career and Community Leaders of AmericaOpens In A New Window (state website) Family, Career and Community Leaders of AmericaOpens In A New Window (national website)

HOSA - Health Occupations Students of America

HOSA's two-fold mission is to promote career opportunities in the healthcare industry and to enhance the delivery of compassionate, quality health care to help students meet the needs of the health care community. HOSA's goal is to encourage all health science technology instructors and students to affiliate and be actively involved in the HOSA-HSTE (Health Science Technology Education) Partnership and serve as a major pipeline of health care professionals in the future.

SkillsUSA

SkillsUSA is a national student organization that strives to make each student more employable through the development of participatory, and leadership skills to complement the occupational skills developed by students in technical education classrooms or work-based learning sites. SkillsUSA is an integral part of approved technical education occupation programs.

NTHS

The National Technical Honor Society is an educational non-profit that exists to honor, recognize, and empower students and teachers in Career & Technical Education. As the honor society for Career & Technical Education, NTHS serves over 100,000 active members annually in both secondary and postsecondary chapters across the country.

Western Montgomery Career and Technology Center

Cooperative Education Guidelines

Students are eligible for the Cooperative Education Program based on their technical teacher's recommendations, grades, NOCTI pre-test score, attendance and school discipline history. Students in the Co-Op Program are paid by their employer for the hours they work. Some students also participate in un-paid internships for one or more days throughout the school year. Both programs have the same requirements for students. Students become eligible to participate during the second semester of their junior year and at any time throughout their senior year. A student who has five (5) or more unexcused absences from school or more than ten (10) days excused absences from school may not be eligible for the Cooperative Education Program. A student who accumulates three (3) unexcused tardies may be required to conference with school administration to continue the work-based component of the School to Work Program. (Tardy days are counted both at school and at work.)
The only exception to this attendance requirement will be for students who have had an extended illness that has been documented by a physician. In the event of extenuating circumstances, the school administration will consider Cooperative Education placement for the students in this category.

Application Procedure:

1. Interested students should discuss the possibility of a paid Co-Op or unpaid Internship placement with his/her instructor to determine if the instructor feels the student is prepared for a work-based learning experience.

2. The student should then meet with the School to Work Coordinator to begin the application process.

3. Enrollment forms must be completed online via forms that are emailed to the student, parent/guardian, home school personnel and technical instructor.

Securing a Cooperative Education Position:

1.The School to Work Coordinator will attempt to secure placement for the student in his/her specific technical trade area. All Cooperative Education placements must directly relate to the student's course of study. The student may assist in the search for a job by filing applications for employment with industries related to their course of study.

2. WMCTC is not responsible for providing transportation to the work site therefore the student or family must have reliable transportation to the job site.

3. Students may be terminated or suspended from the Cooperative Education Program for inappropriate behavior at school or the work site, poor grades, poor attendance, or disciplinary actions.

For More Information Contact:

Ms. Barb Mueller

bmueller@westerncenter.org

610-489-7272 ext. 218

Program Articulation Agreements

The Western Montgomery Career and Technology Center Has agreements with the following:

Thaddeus Stevens College of Technology

Automotive Training Center
Ohio Technical College

Career & Technical Education Students SOAR

The Pennsylvania Department of Education (PDE) supports career and technical education students aligning their high school courses to a college program in order to complete a degree, diploma or certificate. If you are a career and technical education student, use the resources below to learn about the credentials needed to qualify for SOAR program credit.

What Is SOAR?

SOAR stands for *Students Occupationally and Academically Ready*. SOAR programs articulate skills and tasks gained at the secondary school (high school) level to course credit earned in a postsecondary (college) degree, diploma or certificate program.

SOAR programs can help students:

- Prepare for entering the job market with college and career ready skills
- Choose the best career pathway
- Save money on college tuition
- Save time by not duplicating coursework in college

How Do I Qualify for SOAR Credits?

Qualified SOAR program students are eligible to apply for credits up to 3 years after their high school graduation date. In order to qualify for SOAR program post secondary credits a student must:

- Earn a high school diploma, with a minimum 2.75 GPA on a 4.0 scale in the technical core courses
- Complete the secondary school component of the approved PDE Program of Study
- Achieve proficiency on all tasks of the approved PDE Program of Study Competency Task List
- Achieve competent or advanced level on the secondary school end-of-program assessment that is appropriate for the approved PDE Program of Study