

Black Hawk College

Detailed Assessment Report

2010-2011 Automotive Repair Technology 9298, AAS Repair Cert 5710

As of: 9/17/2013 01:09 PM CENTRAL

Goals

G 1: A Quality Program

The Automotive Repair Technology Program will be a quality instructional program meeting the needs of students and stakeholders.

Analysis Questions and Analysis Answers

(PR) STUDENT/MARKET NEED: (CTE) Describe the current and future occupational demand for the program. Include Advisory Committee feedback on demand for skills and an analysis of student enrollment trends and projections.

Demand for skilled and qualified automotive technicians greatly exceeds the supply. This shortage of skilled and qualified technicians is projected to continue for the next five to seven years. The Automotive Technology Program at the East Campus has been experiencing sizable growth for the past four years. Given the high general unemployment rates and the demand for skilled and qualified graduates from the program, continued growth in enrollment is expected.

Connected Documents

[Automotive Repair-Occupational Report](#)

[Automotive Repair-Student Demographics Data](#)

(PR) STUDENT/MARKET NEED: (Discipline) Are the course offerings appropriate to meet the needs of students who will transfer and/or support general education requirements?

This is an Associate of Applied Science Degree program. There are opportunities in the event a student chooses to transfer to a four- year university. For example, Southern Illinois University at Carbondale would accept most of the courses and assist the learner in completing general education requirements while earning a Bachelor of Science Degree in Automotive Technology.

(PR) HUMAN RESOURCE REVIEW: Describe the Programs/Discipline capacity and capability needs including skills, competencies and faculty staffing levels to meet student needs and/or employer's needs.

At present, the automotive instructional facilities are running at or near full capacity. As enrollments continue to grow in this program, facilities will need to be expanded or the program may need to be capped. There are two full-time faculty and one part-time faculty delivering instruction. All have the required competencies, ASE Certification, and required hours of work experience. Additionally, faculty attend in-service training provided by the major automotive manufacturers and professional educational organizations.

(PR) STUDENT OUTCOMES, ACHIEVEMENT, PLACEMENT, FOLLOW-UP: What measures of student learning and development does the Program/Discipline collect and analyze regularly? What are the findings from this analysis? What improvements have been made as a result of these findings?

Faculty members collect results from assessment tools used in classes and in program areas. This data is submitted to the Student Assessment Committee and to the Director of Student Assessment. The results are summarized and published annually. Faculty review this document and also review their individual assessment results. ASE testing is one of the primary assessment tools used in this program. Hopefully, instructional improvements result from this evaluation.

Connected Document

[Automotive Repair Technology-Grade Distribution Data](#)

(PR) STUDENT OUTCOMES, ACHIEVEMENT, PLACEMENT AND FOLLOW-UP: Describe the evidence that the students completing programs/degrees/certificates/courses have acquired the knowledge and skills required by employers or transfer institutions?

Surveys of graduates provides feedback on the knowledge and skill sets they obtained and if those meet the needs of employers. Additionally, employers are surveyed during student's work experience programs. These surveys help direct what knowledge and skill sets need to be incorporated into specific courses and program areas. Recommendations from the Advisory Committee on knowledge and skill sets for various employment areas are also incorporated into programs. Students successfully passing the various ASE Certification areas is the primary indicator that they have acquired the necessary skills and knowledge required by employers.

(PR) STUDENT OUTCOMES, ACHIEVEMENT PLACEMENT, AND FOLLOW-UP: Of the _____ ICCB Generic course syllabi in this program area, _____ meet all course syllabi elements as established by the ICCB Program Manual and outlined in the Faculty Handbook. List those Generic course syllabi and describe the approach the department will use to ensure those not meeting all the Generic Course syllabi elements will be updated within the coming academic year. Faculty course level and Distance Learning Course Syllabus review is not included in this process.

The Automotive faculty have reviewed the master syllabi for the program area. Syllabi revisions were submitted to the Curriculum Committee for acknowledgement or acceptance. The syllabi were acknowledged during the 2010-11 Committee year. All program syllabi will be reviewed during academic year 2015-16.

(PR) CURRICULUM/INSTRUCTIONAL APPROACHES: (CTE) Is the level of the curriculum appropriate to the credential?

Based on input from the Advisory Committee, employers of student interns, and employers of graduates, the curriculum is appropriate to the credential. Some suggestions for curriculum enhancement from these stakeholders includes more computer skill training, updated diagnostic technology, and introduction to new automotive technology such as hybrid and electric automobiles.

Connected Document

[Automotive Repair-Clearinghouse Data](#)

(PR) CURRICULUM/INSTRUCTIONAL APPROACHES: (Discipline) Describe the transfer requirements or content that may be imposed on the program during the next five years and the department's plans to address those changes.

The Automotive Repair Technology program is not a transfer-oriented program. However, students do have the option of transferring to a four-year institution that offers degrees in automotive technology or industrial technology. Illinois State University, Western Illinois University, and the University of Wisconsin – Platteville, will transfer in students with the AAS Degree. Many of the courses will transfer and meet introductory core requirements and electives. Credit for work experience generally does not transfer.

Connected Documents

[Automotive Repair Technology-Course Descriptions](#)
[Automotive Repair Technology-Courses Tied to CIP](#)
[Automotive Repair-Clearinghouse Data](#)

(PR) CURRICULUM/INSTRUCTIONAL APPROACHES: Describe how the program structure, schedule, curriculum, and modes of delivery are designed to effectively achieve student learning objectives and/or student needs?

Associate of Applied Science Degree programs require students to complete one or two work experiences. These work experiences give students the opportunity to learn while employed as well as prepare them for employment upon program completion. These work experiences are structured to enable students to work during spring and summer thus gaining experience during the instructional process. Classroom instruction provides students with lecture and laboratory experiences. The emphasis is on the application of theories to problem solving and management. Instructional delivery involves a mix of traditional classroom lecture/discussion, laboratories, hybrid delivery, and online delivery. The Automotive Technology Program offers a number of summer courses which provide students with a "fast track" program, enabling them to enter employment in a shorter time frame.

Connected Documents

[Automotive Repair Certificate-BHC Web Page](#)
[Automotive Repair Technology AAS-BHC Web Page](#)
[Automotive Repair Technology-AAS Academic Checklist](#)
[Automotive Repair Technology-Certificate Academic Checklist](#)
[Automotive Repair Technology-Program Catalog Pages](#)

(PR) CURRICULUM/INSTRUCTIONAL APPROACHES: Describe scheduling changes that may be needed or where implemented in the past five years.

As enrollment in the program continues to grow, the College will need to look at both expanded facilities and course schedules.

(PR) FINANCIAL ANALYSIS: Based on the UNIT COST/CURRICULUM REVIEW (if appropriate) what steps are necessary to sustain program viability? (i.e.; increasing enrollment, upgrading or new equipment, improving facilities, finding qualified faculty, professional development)?

As noted, enrollment is increasing. In order for the College to sustain this growth, facilities will need to be expanded, equipment will need to be updated, and hopefully, additional faculty can be added. The program and the College will need to continue to seek assistance from industry and identify new grant sources.

Connected Document

[Automotive Repair-Unit Cost and Credit Hours](#)

(PR) RECOMMENDATIONS: What specifically did your review show regarding proven strengths or progress made on outcomes/objectives?

Some of the strengths of this program are student engagement, retention, and placement. With these strengths, we have been able to meet the objectives of the program.

(PR) RECOMMENDATIONS: What specifically did your review show regarding proven weaknesses or outcomes/objectives that will need continued attention?

One of the biggest weaknesses that we face is the limited amount of lab space. The amount of lab space that we have to work with limits us to the number of students that can be in the lab, the amount of projects that we can work on, and the number of students working on projects at a time. The lack of lab space prevents students from being independent and getting used to working in a real world environment.

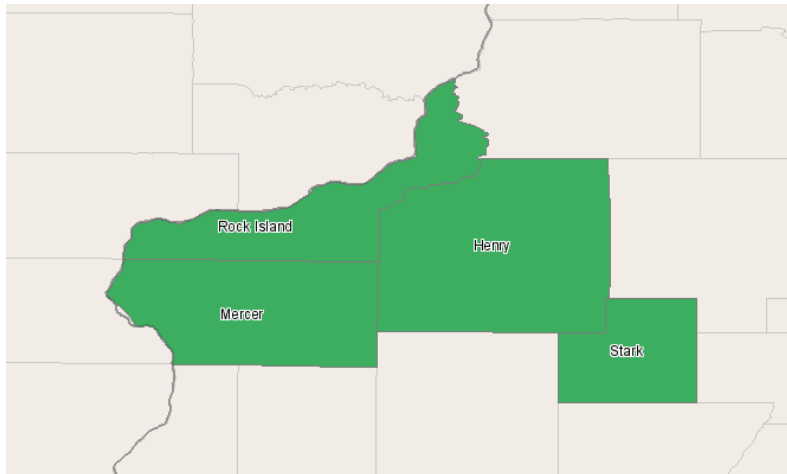
(PR) RECOMMENDATIONS: Recommendations for Opportunities for Improvement- Be sure to also create Action Plans for these recommendations.

Opportunity for improvement would be in adapting the facilities for this program: assess current facility limitations and strengths, identify future industry trends, survey other institutions, consult architects, conduct feasibility study, obtain funding..

Black Hawk College

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Moline, Illinois 61265
309.852.5671

Occupation Report



Region Info

Region: PR District

County Areas: Henry, Illinois (17073), Mercer, Illinois (17131), Rock Island, Illinois (17161), Stark, Illinois (17175)

Selected Occupations

Occupation	Education Level
Electrical and electronics installers and repairers, transportation equipment (SOC 49-2093)	Postsecondary vocational award
Electronic equipment installers and repairers, motor vehicles (SOC 49-2096)	Postsecondary vocational award
Automotive service technicians and mechanics (SOC 49-3023)	Postsecondary vocational award

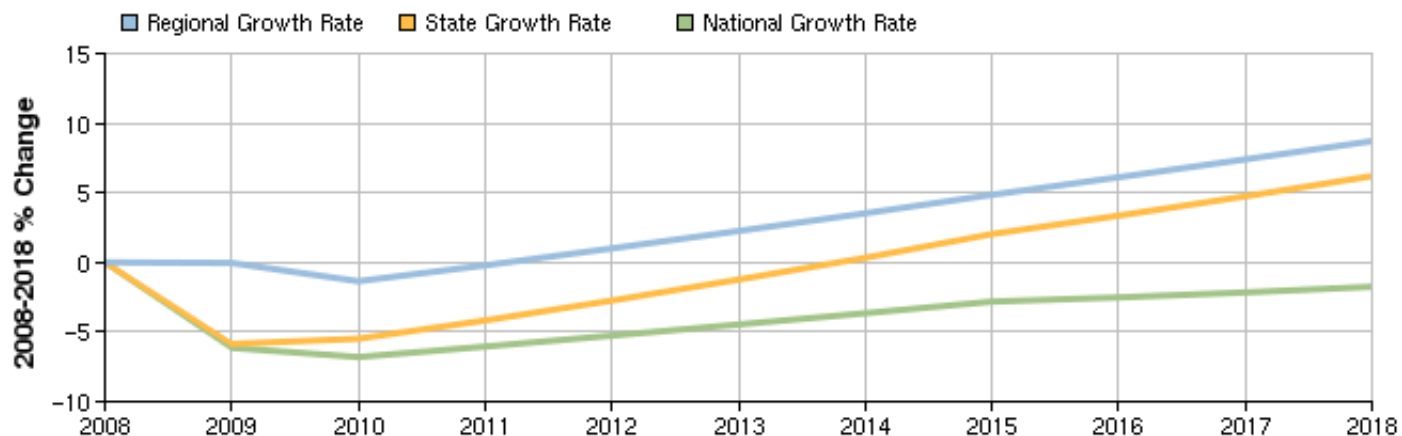
Executive Summary

Basic Information	
2008 Occupational Jobs	636
2018 Occupational Jobs	692
Total Change	56
Total % Change	8.64%
Openings	191
2010 Avg Hourly Earnings	\$17.43

Economic Indicators	
2008 Location Quotient	1.03
2018 Location Quotient	1.20
Shift Share: Regional Competitiveness Effect	66
Shift Share: Occupational Mix Effect	-51
Shift Share: National Effect	40

Source: EMSI Complete Employment - 3rd Quarter 2010

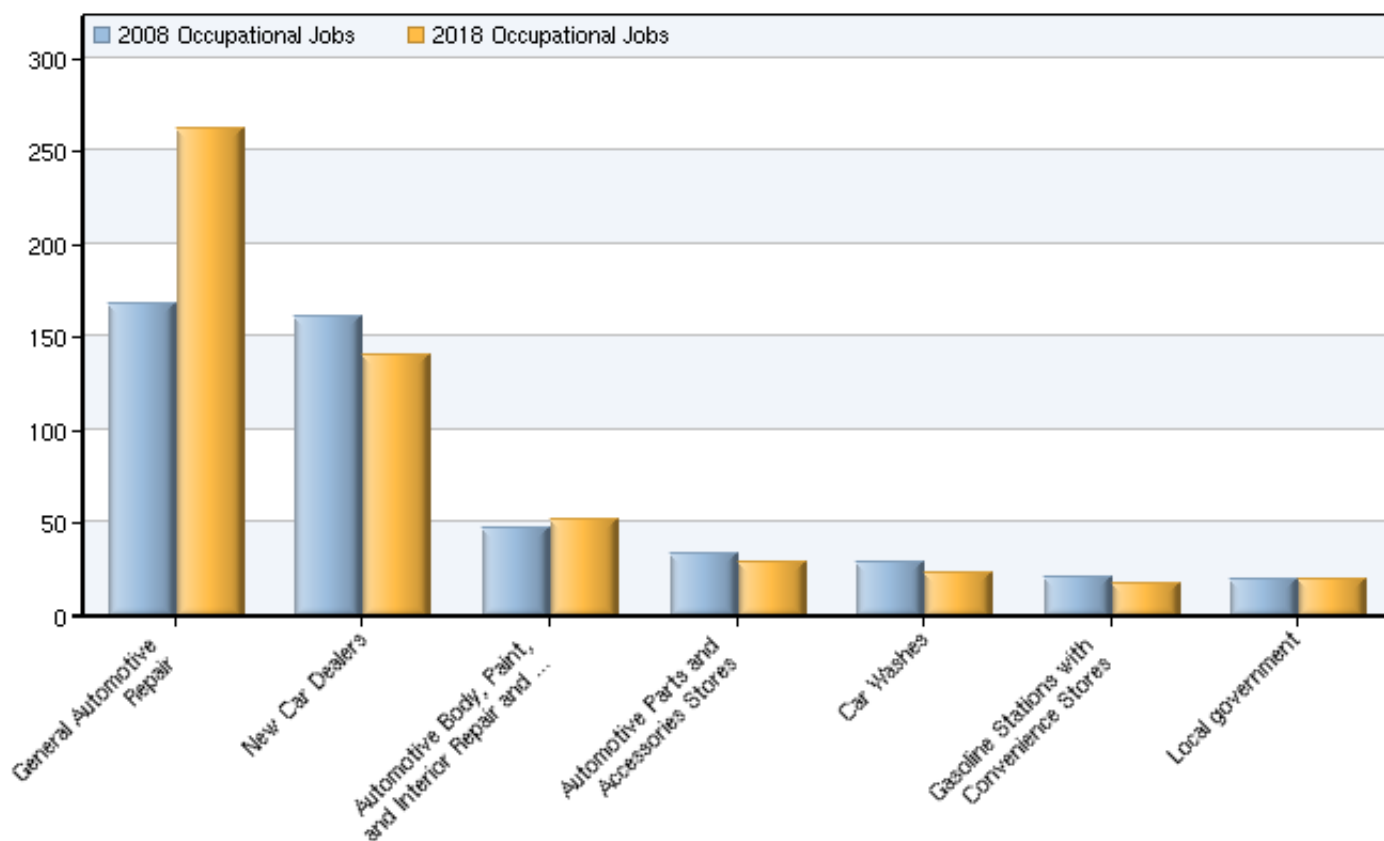
Occupational Change Summary



Region	2008 Jobs	2018 Jobs	Change	% Change	Openings	2010 Avg Hourly Earnings
Regional Total	636	692	56	9%	191	\$17.43
State Total	38,940	41,352	2,412	6%	12,014	\$20.16
National Total	877,237	861,892	-15,345	-2%	219,400	\$20.10

Source: EMSI Complete Employment - 3rd Quarter 2010

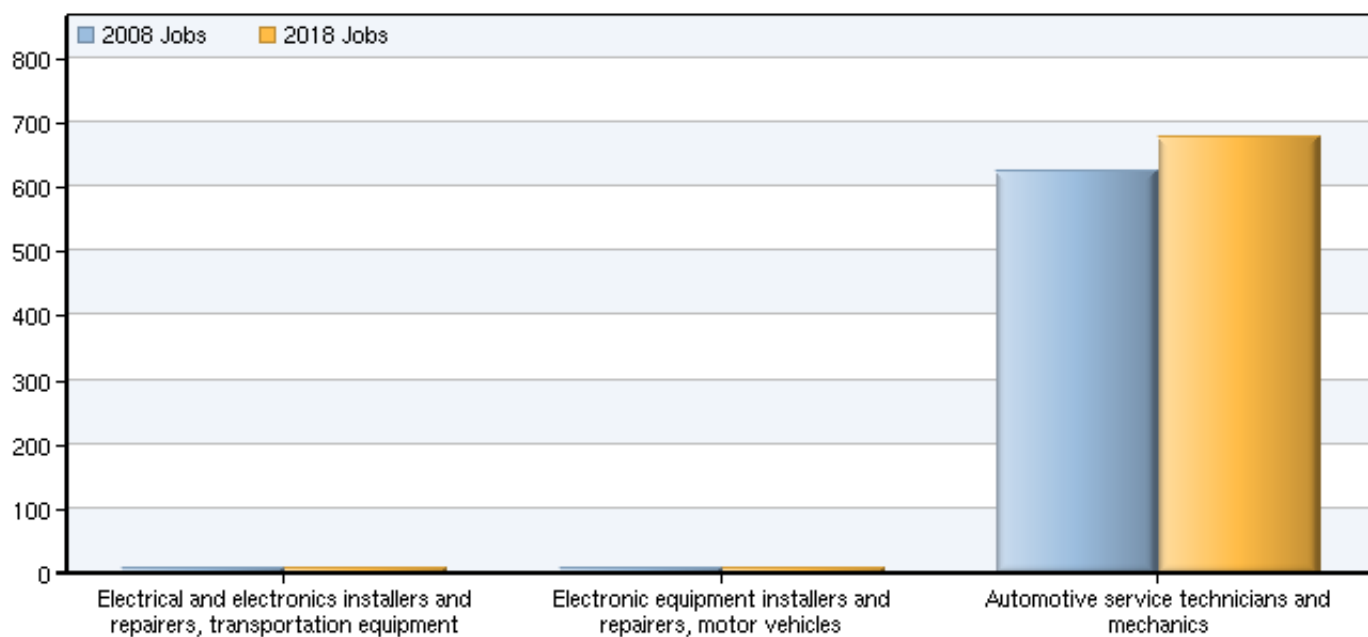
Top Industries for Selected Occupations



NAICS Code	Name	2008 Jobs	2018 Jobs	Change	% Change
811111	General Automotive Repair	168	262	94	56%
441110	New Car Dealers	160	141	-19	-12%
811121	Automotive Body, Paint, and Interior Repair and Maintenance	47	52	5	11%
441310	Automotive Parts and Accessories Stores	33	29	-4	-12%
811192	Car Washes	28	22	-6	-21%
447110	Gasoline Stations with Convenience Stores	20	17	-3	-15%
930000	Local government	20	20	0	0%

Source: EMSI Complete Employment - 3rd Quarter 2010

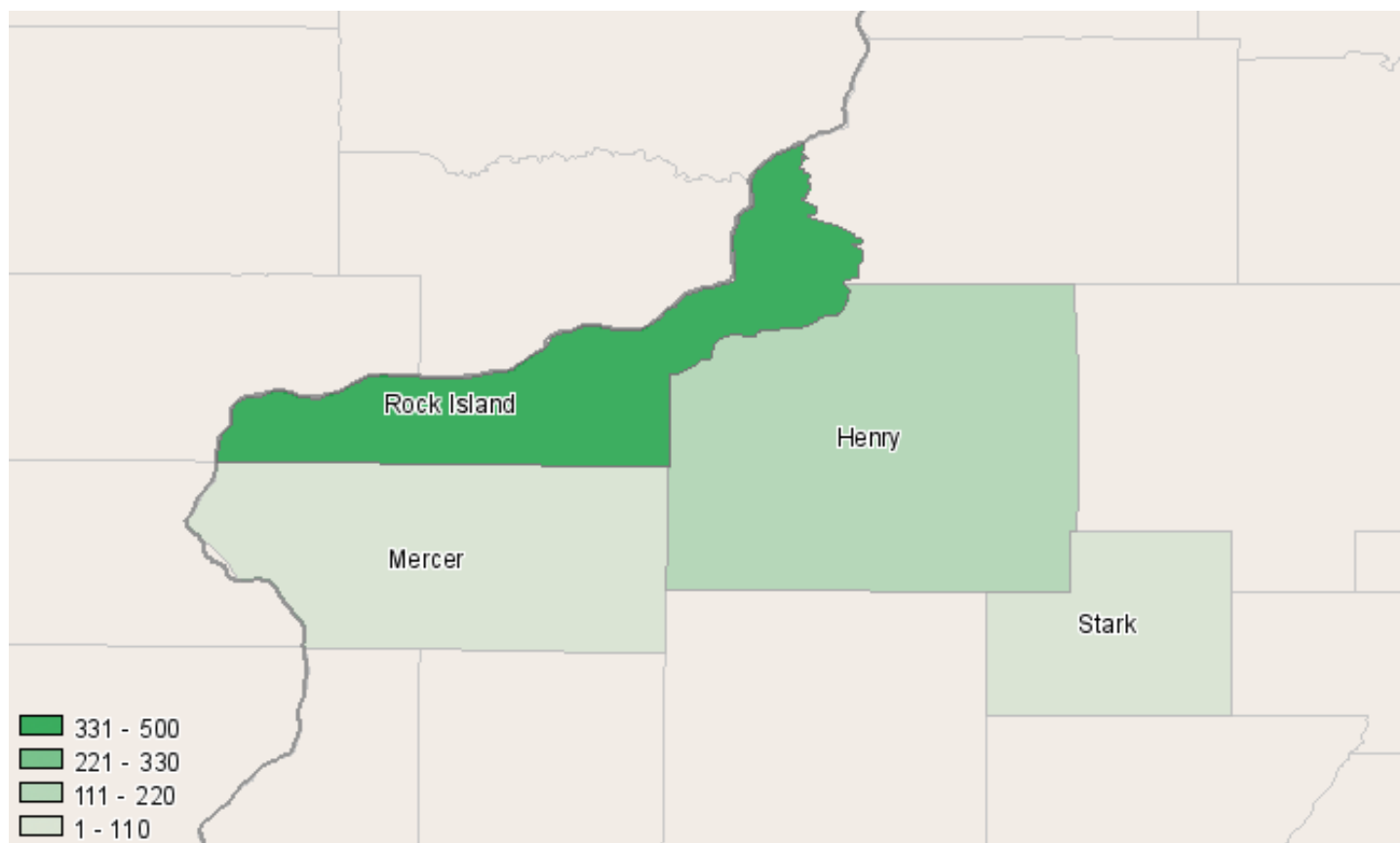
Occupational Breakdown



SOC Code	Description	2008 Jobs	2018 Jobs	Openings	2010 Avg Hourly Earnings
49-2093	Electrical and electronics installers and repairers, transportation equipment	<10	<10	--	--
49-2096	Electronic equipment installers and repairers, motor vehicles	<10	<10	--	--
49-3023	Automotive service technicians and mechanics	624	678	187	\$17.43
	Total	636	692	191	\$17.43

Source: EMSI Complete Employment - 3rd Quarter 2010

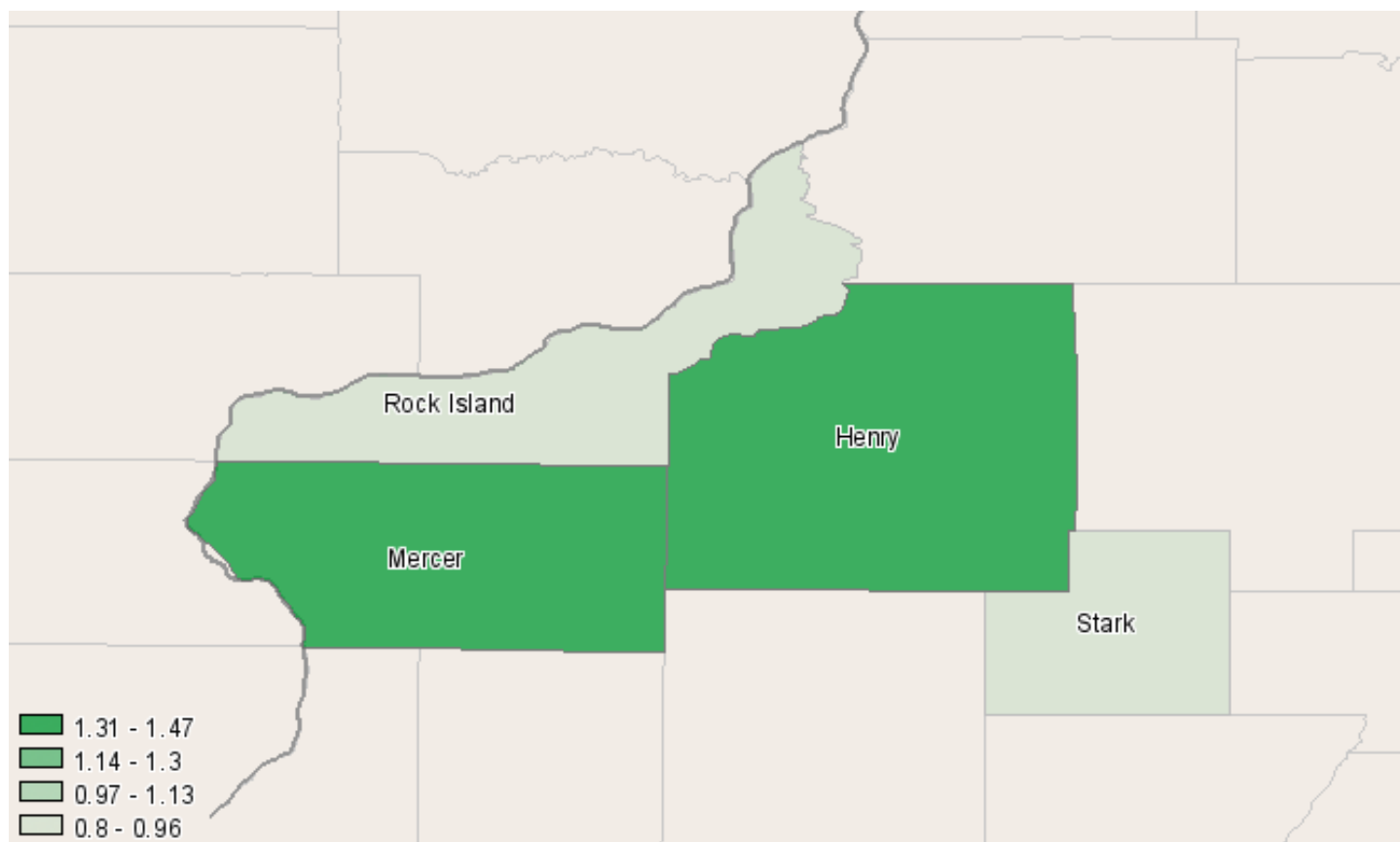
Occupation Distribution



County	2008 Jobs
Rock Island, IL (17161)	435
Henry, IL (17073)	156
Mercer, IL (17131)	37
Stark, IL (17175)	<10

Source: EMSI Complete Employment - 3rd Quarter 2010

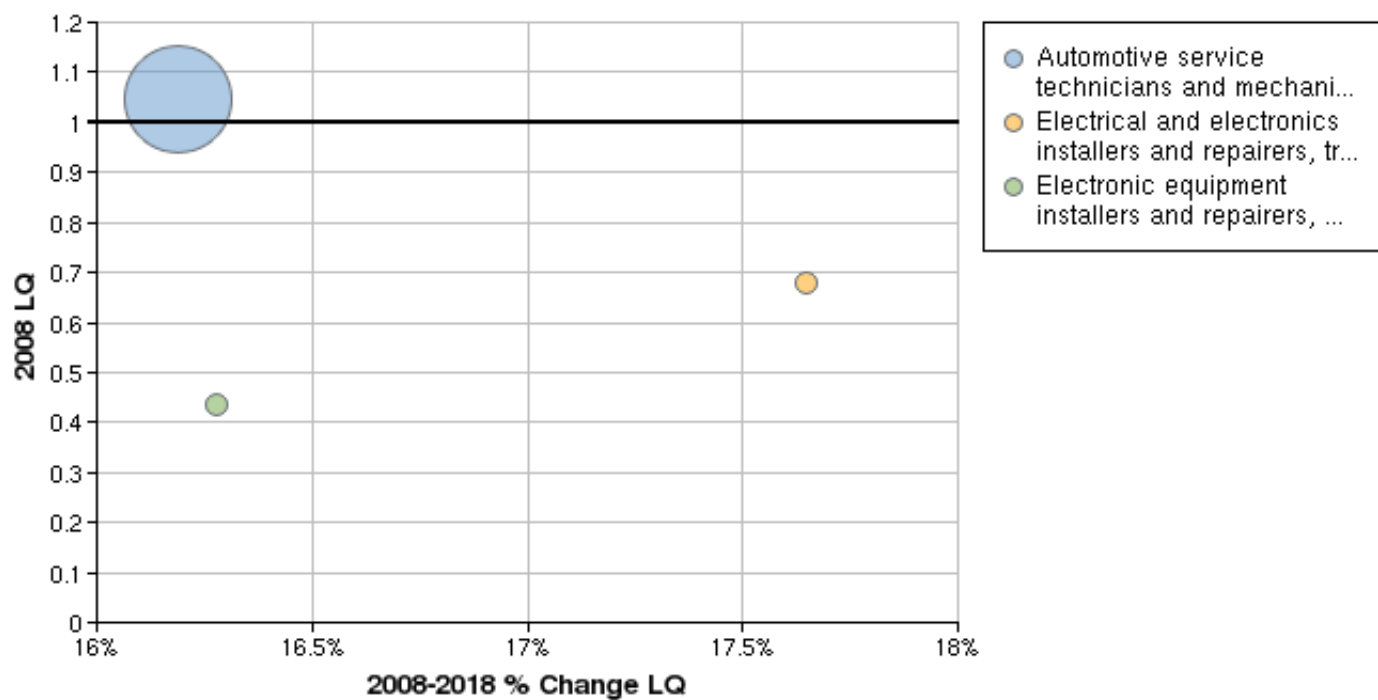
Occupation Concentration



County	2008 Location Quotient
Henry, IL (17073)	1.43
Mercer, IL (17131)	1.33
Rock Island, IL (17161)	0.92
Stark, IL (17175)	0.80

Source: EMSI Complete Employment - 3rd Quarter 2010

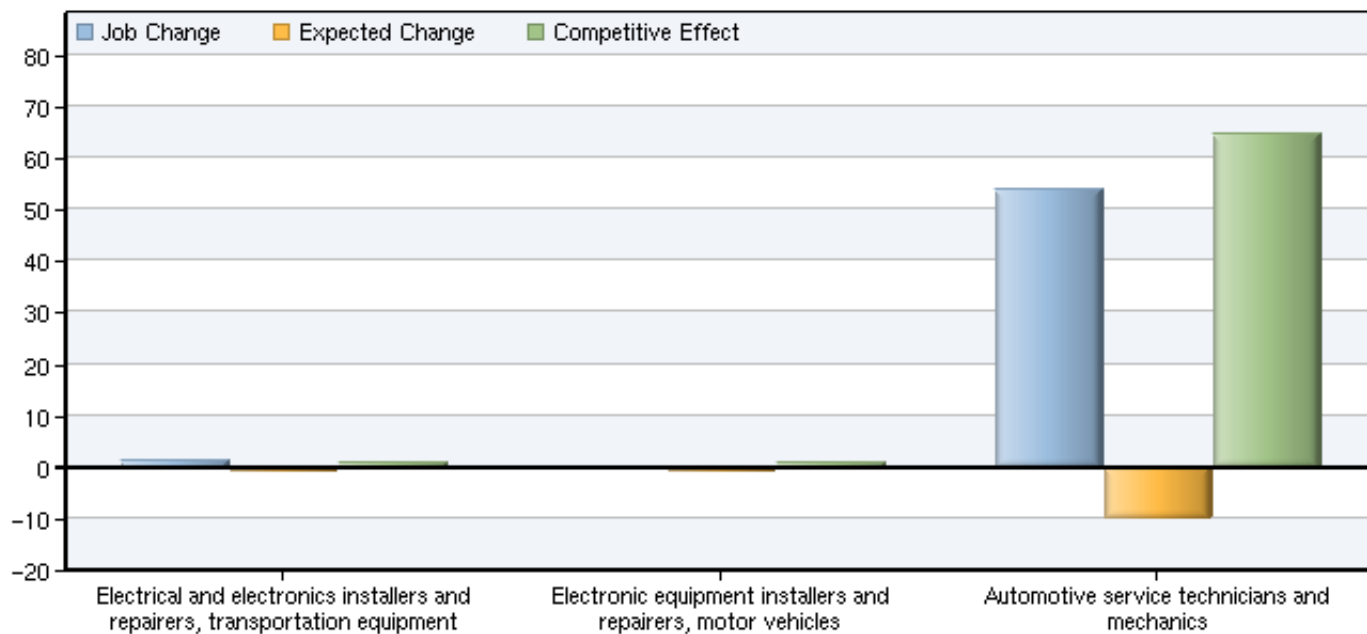
Location Quotient Breakdown



SOC Code	Description	2008 Jobs	2008 LQ	2018 LQ
49-3023	Automotive service technicians and mechanics	624	1.05	1.22
49-2093	Electrical and electronics installers and repairers, transportation equipment	<10	--	--
49-2096	Electronic equipment installers and repairers, motor vehicles	<10	--	--
Total		636	1.03	1.20

Source: EMSI Complete Employment - 3rd Quarter 2010

Shift Share Breakdown



SOC Code	Description	Job Change	Occ Mix Effect	Nat Growth Effect	Expected Change	Competitive Effect
49-2093	Electrical and electronics installers and repairers, transportation equipment	1	-1	0	-1	1
49-2096	Electronic equipment installers and repairers, motor vehicles	0	-1	0	-1	1
49-3023	Automotive service technicians and mechanics	54	-49	39	-10	65
	Total	55	-51	40	-11	66

Source: EMSI Complete Employment - 3rd Quarter 2010

Data Sources and Calculations

Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Shift Share

Shift share is a standard regional analysis method that attempts to determine how much of regional job growth can be attributed to national trends and how much is due to unique regional factors.

State Data Sources

This report uses state data from the following agencies: Illinois Department of Employment Security, Employment Projections.

Program: Automotive Repair Technology**Prefix and Number Used: 0516 5512, 0516 5513, 0516 5514, APS 5510, APT 9298****Prefix and Number Used: AUTO 5710, RVS 5597, 0516 5608, 0516 5609****CIP Code(s): 470604****Year of Review: FY2011**

		<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>
Total Number of Students:		33	31	25	23	40
<u>Category</u>						
Gender	Male	31	28	25	23	37
	Female	2	3	0	0	3
Ethnicity	Caucasian	31	28	22	20	31
	Asian	0	0	0	0	0
	Native American	0	0	0	0	0
	African American	1	1	2	0	4
	Hispanic	1	2	1	2	3
	Other/Unknown	0	0	0	1	2
	Total Minority	2	3	3	3	9
Age	Under 25	29	26	19	15	20
	25 and Over	4	5	6	8	20
	Unknown	0	0	0	0	0
Previous Education	< High School	13	2	3	2	0
	High School or GED	17	25	19	20	33
	Some College	1	3	3	0	1
	Certificate/Associate's	0	0	0	1	2
	>=Bachelor's	0	0	0	0	3
	Unknown	2	1	0	0	1
Student Level	Freshman	8	8	10	12	17
	Sophomore	13	21	14	10	18
	High School	10	1	0	0	0
	Other	2	1	1	1	5
Current Goal	Transfer	4	1	0	2	2
	Improve job skills	1	2	4	3	2
	Career prep	23	24	16	15	31
	Basic skills	0	0	0	0	0
	Personal Interest	0	0	0	0	2
	Other	5	4	5	3	3
Objective	Courses only	3	0	1	2	2
	Earn Certificate	10	13	11	9	19
	Earn Degree	20	18	13	12	19
Status	Full-time	16	20	14	13	25
	Part-time	17	11	11	10	15

Program: Automotive Repair Technology

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Prefix and Number Used: 0516 5512, 0516 5513, 0516 5514, APS 5510, APT 9298

Prefix and Number Used: AUTO 5710, RVS 5597, 0516 5608, 0516 5609

CIP Code(s): 470604

Year of Review: FY2011

		<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>
Disadvantage Status	Economic Disadvantage	4	7	11	8	3
	Academic Disadvantage	7	8	4	2	4
	Both	2	8	2	4	4
	None	20	8	8	9	29
Student Completers	Yes	3	1	4	5	2
	No	30	30	21	18	38
Number of Degrees Awarded		2	2	8	6	5

Prefix	Number	Course Master File.Title	PCS	CIP	PreK2000	Curriculum Prefix	Curriculum Number	Curriculum Master File.Title	Curriculum Master File.Status	Course Master File Status	Begin Date	End Date	Fund Level
These courses need to be aligned with the appropriate active program.													
AUTO	100	BASIC VEHICLE MAINTENANCE & REPAIR I	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	5/1/1994		3	
AUTO	101	BASIC VEHICLE MAINTENANCE II	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	5/1/1994		3	
AUTO	107	ENGINE PERFORMANCE I	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	5/1/1994		3	
AUTO	115	WHEEL ALIGNMENT & SUSPENSION	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	5/1/1994		3	
AUTO	207	ENGINE PERFORMANCE II	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	5/1/1994		3	
MECH	102	BRAKE & HYDRAULIC SYSTEMS	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	103	ELECTRICAL SYSTEMS I	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	104	ELECTRICAL SYSTEMS II	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	105	FUEL CONTROL SYSTEMS	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	108	HYDRAULIC TRANSMISSIONS	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	109	POWER TRAINS	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	111	ENGINE REPAIR I	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	112	AIR CONDITIONING	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	211	ENGINE REPAIR II	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MECH	215	ADVANCED SERVICE I	12	470604	APT	5098	AUTOMOTIVE REPAIR TECHNOLOGY	W	A	8/1/1997		3	
MPS	272	LUBRICATION & COOLING SYSTEMS	12	470604	AGMEC	5484	AGRICULTURE MECHANICS SERVICE	W	A	5/1/1994		3	
AUTO	160	INTRO TO AUTO SERVICE INDUSTRY	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	162	AUTOMOTIVE FUNDAMENTALS	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	163	BASIC AUTO STEERING/SUSPENSION	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	

Prefix	Number	Course Master File.Title	PCS	CIP	PreK2000	Curriculum Prefix	Curriculum Number	Curriculum Master File.Title	Curriculum Master File.Status	Course Master File Status	Begin Date	End Date	Fund Level
AUTO	164	BASIC AUTOMOTIVE ALIGNMENT	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	165	BASIC AUTO ELECTRICAL SYSTEMS	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	171	HEATING & AIR CONDITIONING	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	172	BASIC AUTOMOTIVE DRIVE TRAINS	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	181	BASIC AUTOMOTIVE BRAKES	12	470604	0516	5608	BASIC AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	182	AUTOMATIC TRANSMISSIONS I	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	186	UPPER ENGINE REPAIR	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	187	LOWER ENGINE REPAIR	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	188	FUEL MANAGEMENT	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	
AUTO	189	ENGINE PERFORMANCE	12	470604	0516	5609	ADVANCED AUTOMOTIVE TECHNOLOGY	W	W	5/1/1994	8/1/2003	3	

Occupational Program: Automotive Repair Technology

Black Hawk College's Prefix and Number: 0516 5512, 0516 5513, 0516 5514, APS 5510, APT 9298, AUTO 5710, RVS 5597, 0516 5608, 0516 5609

Year of Review: FY2011

	Fiscal Year the Student is Enrolled In at BHC				
	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>
Students with a major of Automotive Repair Technology:	33	31	25	23	40
Number transferring to another institution the next fiscal year:	7	3	2	1	2
Most Frequent Institution Transferred To:	Western IL	Scott CC, WIU, Sauk Valley CC	Scott CC, IL Central CC	Scott CC, Salt Lake CC	Scott CC, WIU
Number that graduated from the institution they transferred to:	5	1			
Most Frequent Institution Graduated From:	Western IL	Western IL			
Number that earned a related degree from the institution they transferred to:	2	-			
Most Frequently Earned Degree:	Several tied @1	Rec, Parks, & Tour Adm.			
Students Earning a Degree from Another Institution After Leaving BHC*:	1,683	1,280			
Number earning a degree from a 4-year institution:	1,519	1,128			
Number earning a degree from a 2-year institution:	179	158			
Number earning a related degree from another institution:	-	1			
Southern Illinois University @ Carbondale	n/a	1			
Number that had a transfer major while at Black Hawk College:	-	1			
Most Frequent Transfer Major:	n/a	Associate in Arts			
Number that had an occupational major while at Black Hawk College:	-	-			
Most Frequent Occupational Major:	n/a	n/a			


* -- Earning a degree through the Summer of 2010

Automotive Repair Technology Grade Distribution Data

SUBJ	CRSE	Term	# of Secs.	# of As	# of Bs	# of Cs	# of Ds	# of Fs	# of Ps	# of Ws	# of Xs	ABCDFPW&X	ABCDF&P	Reten. Rate	ABC&P	Success	Success
AUTO	100	200608	1	4	2	10	0	0	0	0	0	16	16	100.00%	16	100.00%	100.00%
AUTO	100	200708	1	2	2	3	0	0	0	1	0	8	7	87.50%	7	100.00%	87.50%
AUTO	100	200808	1	6	5	2	0	0	0	0	0	13	13	100.00%	13	100.00%	100.00%
AUTO	100	200908	1	3	5	0	1	0	0	0	1	10	9	90.00%	8	88.89%	80.00%
AUTO	100	201008	1	4	3	2	0	0	0	0	0	9	9	100.00%	9	100.00%	100.00%
AUTO	101	200701	1	5	0	3	0	0	0	0	0	8	8	100.00%	8	100.00%	100.00%
AUTO	101	200801	1	4	2	0	0	0	0	1	0	7	6	85.71%	6	100.00%	85.71%
AUTO	101	200901	1	2	4	6	0	0	0	0	0	12	12	100.00%	12	100.00%	100.00%
AUTO	101	201001	1	3	3	1	2	0	0	0	0	9	9	100.00%	7	77.78%	77.78%
AUTO	107	200608	1	2	3	7	3	0	0	1	0	16	15	93.75%	12	80.00%	75.00%
AUTO	107	200708	1	0	3	7	0	0	0	0	0	10	10	100.00%	10	100.00%	100.00%
AUTO	107	200808	1	1	3	2	0	1	0	0	0	7	7	100.00%	6	85.71%	85.71%
AUTO	107	200908	1	3	6	1	0	0	2	0	2	14	12	85.71%	12	100.00%	85.71%
AUTO	107	201008	1	4	2	7	2	0	0	3	2	20	15	75.00%	13	86.67%	65.00%
AUTO	115	200701	1	0	2	5	4	0	0	1	1	13	11	84.62%	7	63.64%	53.85%
AUTO	115	200801	1	0	3	3	0	0	0	1	0	7	6	85.71%	6	100.00%	85.71%
AUTO	115	200901	1	2	1	1	0	0	0	0	1	5	4	80.00%	4	100.00%	80.00%
AUTO	115	201001	1	5	2	1	3	0	0	1	2	14	11	78.57%	8	72.73%	57.14%
MECH	102	200608	1	5	3	11	2	1	0	2	0	24	22	91.67%	19	86.36%	79.17%
MECH	102	200708	1	2	2	7	0	0	0	0	0	11	11	100.00%	11	100.00%	100.00%
MECH	102	200808	1	5	1	1	3	0	0	1	0	11	10	90.91%	7	70.00%	63.64%
MECH	102	200908	1	1	7	7	1	0	0	0	1	17	16	94.12%	15	93.75%	88.24%
MECH	102	201008	2	10	3	4	6	0	0	4	0	27	23	85.19%	17	73.91%	62.96%
MECH	103	200608	1	2	6	12	1	0	0	1	0	22	21	95.45%	20	95.24%	90.91%
MECH	103	200708	1	2	5	5	0	0	0	0	0	12	12	100.00%	12	100.00%	100.00%
MECH	103	200808	1	3	5	0	1	1	0	0	0	10	10	100.00%	8	80.00%	80.00%
MECH	103	200908	1	0	7	7	0	0	2	0	1	17	16	94.12%	16	100.00%	94.12%
MECH	103	201008	2	6	6	7	3	0	0	2	4	28	22	78.57%	19	86.36%	67.86%
MECH	104	200701	1	2	3	4	6	4	0	0	0	19	19	100.00%	9	47.37%	47.37%
MECH	104	200801	1	0	3	3	2	0	0	0	2	10	8	80.00%	6	75.00%	60.00%
MECH	104	200901	1	6	3	1	0	1	0	0	1	12	11	91.67%	10	90.91%	83.33%
MECH	104	201001	1	1	9	1	2	0	0	2	1	16	13	81.25%	11	84.62%	68.75%

Automotive Repair Technology Grade Distribution Data

SUBJ	CRSE	Term	# of Secs.	# of As	# of Bs	# of Cs	# of Ds	# of Fs	# of Ps	# of Ws	# of Xs	ABCDFPW&X	ABCDF&P	Reten. Rate	ABC&P	Success	Success
MECH	108	200701	1	1	6	9	1	0	0	2	2	21	17	80.95%	16	94.12%	76.19%
MECH	108	200801	1	1	5	4	0	0	0	1	0	11	10	90.91%	10	100.00%	90.91%
MECH	108	200901	1	3	6	4	0	0	0	0	0	13	13	100.00%	13	100.00%	100.00%
MECH	108	201001	1	4	7	6	4	0	0	1	0	22	21	95.45%	17	80.95%	77.27%
MECH	109	200701	1	5	3	7	2	2	0	0	0	19	19	100.00%	15	78.95%	78.95%
MECH	109	200801	1	1	2	4	1	0	0	0	0	8	8	100.00%	7	87.50%	87.50%
MECH	109	200901	1	4	3	2	1	0	0	0	1	11	10	90.91%	9	90.00%	81.82%
MECH	109	201001	1	1	8	3	5	0	0	1	2	20	17	85.00%	12	70.59%	60.00%
MECH	111	200608	1	2	5	11	2	1	0	1	0	22	21	95.45%	18	85.71%	81.82%
MECH	111	200708	1	2	2	7	0	0	0	0	0	11	11	100.00%	11	100.00%	100.00%
MECH	111	200808	1	0	3	2	4	1	0	0	0	10	10	100.00%	5	50.00%	50.00%
MECH	111	200908	1	3	5	8	1	0	2	0	2	21	19	90.48%	18	94.74%	85.71%
MECH	111	201008	2	1	4	12	3	0	0	2	3	25	20	80.00%	17	85.00%	68.00%
MECH	211	200701	1	4	5	5	3	0	0	1	2	20	17	85.00%	14	82.35%	70.00%
MECH	211	200801	1	0	5	3	1	0	0	1	0	10	9	90.00%	8	88.89%	80.00%
MECH	211	200901	1	1	3	4	1	0	0	0	1	10	9	90.00%	8	88.89%	80.00%
MECH	211	201001	1	6	5	4	4	0	0	2	1	22	19	86.36%	15	78.95%	68.18%



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Automotive Repair Certificate

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Certificate Code 5710

The Automotive Repair Certificate program provides practical knowledge of the component parts and the fundamentals of operation of the automobile as well as diagnostic and repair procedures. Classroom and laboratory instruction is provided. Students completing the certificate may be employed as brake specialists, wheel alignment and suspension specialists, air conditioning specialists, transmission specialists, or automotive repair specialists in automotive repair businesses and automotive dealerships. The Automotive Repair Certificate differs from the Automotive Repair Technology degree in that it is comprised of only auto and mechanics courses and may be completed in one year.

Enrollment in the Automotive Repair program is limited. Students are required to provide their own basic set of tools. Information on admission requirements and required tools may be secured from one of the contact persons or the Enrollment Services Office.

Program Contacts:

East Campus

Jon Wolf

309-854-1724

wolfj@bhc.edu

Gary Werkheiser

309-854-1833

werkheiserg@bhc.edu

Course of Study Outline

Fall Semester		Credit Hours
AUTO 107	Engine Performance I	4
MECH 102	Brake and Hydraulic Systems	4
MECH 103	Electrical Systems I	4
MECH 111	Engine Repair I	4
Spring Semester		Credit Hours
AUTO 115	Wheel Alignment and Suspension	4
MECH 104	Electrical Systems II	3
MECH 108	Hydraulic Transmissions	3
MECH 109	Power Trains	3
MECH 211	Engine Repair II	4
Summer Semester		Credit Hours
AUTO 207	Engine Performance II	3
MECH 105	Fuel Control Systems	4
MECH 112	Air Conditioning	3
Minimum total hours required for certificate		43

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Required courses for this program include:

AUTO 107 Engine Performance I

A study of today's auto ignition, fuel delivery, air induction and emissions systems integrated under a computerized control system.

4 credit hours: 2 lecture hours; 4 lab hours per week.

AUTO 115 Wheel Alignment and Suspension

A study of suspension systems and repair. Principles of wheel alignment, repair, and adjustment.

4 credit hours: 2 lecture hours; 4 lab hours per week.

AUTO 207 Engine Performance II

A detailed study of today's computer controlled systems and how they interrelate. Emphasis on diagnosis and test procedures and how they relate to drivability problems.

3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 102 Brake and Hydraulic Systems

Brake systems, maintenance, repair and adjustment. Topics include wheel balance and power steering.

MECH 103 Electrical Systems I

Theoretical and practical aspects of electrical systems and components used on vehicles. Batteries, cranking, charging, ignition, accessory components and circuit wiring will be emphasized.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 104 Electrical Systems II

Study of electronics, regulation systems, injection systems, components and accessories. Circuit understanding, troubleshooting, repair and service will be emphasized.

1-4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 105 Fuel Control Systems

Basic fuel system principles of operation, (electronic feedback carburetion principles), and electronic fuel injection systems will be covered.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 108 Hydraulic Transmissions

The study of theory, operation, service and repair of powershift and/or automatic transmissions. Emphasis will be placed on current use transmissions. Student skill development in analysis and repair procedures will be stressed.

1-3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 109 Power Trains

A working knowledge of the functions, designs, construction and service of automotive power trains. Course emphasis to be on various types of clutches, three-, four- and five-speed manual transmissions, drive lines, rear axles and differentials.

3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 111 Engine Repair I

An introductory course for the application and principles of operation of modern engines. Emphasis placed on measurement, engine machining, engine repair and general service to engines used in modern vehicles.

4 credit hours: 2 lecture hours; 4 lab hours per week.


MECH 112 Air Conditioning

Fundamentals of operation and service of air conditioners and cooling units used on auto and agricultural applications.


3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 211 Engine Repair II

Application of theory to engine repair; analysis of engine failures, engine machining, service repair to engine systems. Emphasis on practical decision making and development of repair skills.



4 credit hours: 2 lecture hours; 4 lab hours per week.



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Automotive Repair Technology AAS

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Associate in Applied Science Code 9298

The Automotive Repair Technology program provides a proper balance of theory and practical knowledge for students preparing for careers in the automotive service industry. Graduates of the program may become employed as automotive mechanic technicians, transmission specialists, service managers, or service writers in automotive dealerships and automotive repair businesses.

The curriculum emphasizes laboratory diagnostic procedures in both domestic and foreign engines, electrical systems, transmissions, drive trains, suspension systems, computerized control systems, and electronic fuel control systems. Students will be prepared to take and expected to pass Automotive Service Excellence (ASE) certification tests in order to qualify for the work experience internship. Students will be placed in automotive dealerships and automotive repair businesses during the last semester of the program in order to gain on-the-job experience.

The Automotive Repair Certificate program provides practical knowledge of the component parts and the fundamentals of operation of the automobile as well as diagnostic and repair procedures. Classroom and laboratory instruction is provided. Students completing the certificate may be employed as brake specialists, wheel alignment and suspension specialists, air conditioning specialists, transmission specialists, or automotive repair specialists in automotive repair businesses and automotive dealerships. The Automotive Repair Certificate differs from the Automotive Repair Technology degree in that it is comprised of only auto and mechanics courses and may be completed in one year.

Enrollment in this program is limited. Students are required to provide their own basic set of tools. Information on admission requirements and required tools may be secured from one of the contact persons or the Enrollment Services Office.

Program Contacts:

East Campus
Jon Wolf
309-854-1724
wolfj@bhc.edu

Gary Werkheiser
309-854-1833
werkheiserg@bhc.edu

Course of Study Outline

First Year		
Fall Semester Suggested Courses		Credit Hours
AUTO 107	Engine Performance I	4
MECH 102	Brake and Hydraulic Systems	4
MECH 103	Electrical Systems I	4
MECH 111	Engine Repair I	4
Spring Semester Suggested Courses		Credit Hours
AUTO 115	Wheel Alignment and Suspension	4

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MECH 104	Electrical Systems II	3
MECH 108	Hydraulic Transmissions	3
MECH 211	Engine Repair II	4
	MECH Elective	3
Summer Semester Suggested Courses		Credit Hours
AUTO 207	Engine Performance II	3
AUTO 299	ASE Review	1
MECH 105	Fuel Control Systems	4
MECH 112	Air Conditioning	3
MECH 290	Work Experience Inter Seminar	1
Second Year		
Fall Semester Suggested Courses		Credit Hours
CS 100	Intro to Computers	3
COMM 100	Communication Skills	3
	MATH Elective	3
	Science Elective	3
Spring Semester Suggested Courses		Credit Hours
BA 110	Introduction to Business	3
	AUTO or MECH Electives	6
Minimum total hours required for degree		66
<i>Suggested electives: AUTO 100, 101; MECH 109, 215, 219, 291</i>		

Required courses for this program include:

AUTO 100 Basic Vehicle Maintenance and Repair I

A study of suspension systems and repair. Principles of wheel alignment, repair and adjustment.
3 credit hours: 2 lecture hours; 2 lab hours per week.

AUTO 101 Basic Vehicle Maintenance II

A continuation of a fundamental course in general vehicle maintenance. Students will be introduced to a variety of components and service procedures dealing with vehicle drive trains and suspension systems. They will also be oriented in the techniques associated with the operation and management of a service facility.
3 credit hours: 2 lecture hours; 2 lab hours per week.

AUTO 107 Engine Performance I

A study of today's auto ignition, fuel delivery, air induction and emissions systems integrated under a computerized control system.
4 credit hours: 2 lecture hours; 4 lab hours per week.

AUTO 115 Wheel Alignment and Suspension

A study of suspension systems and repair. Principles of wheel alignment, repair, and adjustment.
4 credit hours: 2 lecture hours; 4 lab hours per week.

AUTO 207 Engine Performance II

A detailed study of today's computer controlled systems and how they interrelate. Emphasis on diagnosis and test procedures and how they relate to drivability problems.
3 credit hours: 2 lecture hours; 2 lab hours per week.

AUTO 299 ASE Review

Review course to prepare for the ASE exams. Sample questions, reasons behind the answers, and test taking techniques will be covered.

1 credit hour: 1 lecture hour; 0 lab hours per week.

BA 110 Introduction to Business

Basic course introducing major kinds of business organizations and forms of ownership. Study of vocabulary and functions of activities such as financing, marketing, management, personnel administration, and international business.

3 Credit Hours: 3 lecture hours; 0 lab hours per week.

CS 100 Introduction to Computers

Prerequisite: Appropriate placement score or REA 093 "B" or better.

Introduction to computer concepts, computer applications, and the impact of computers on society. Applications include word processing, spreadsheet, database, presentation and web-based software. Basic Algebra or equivalent is recommended.

3 Credit Hours: 3 lecture hours; 1 lab hour per week.

COMM 100 Communication Skills

For career program students only. COMM 100 and ENG 132 fulfill requirements for an associate's degree in several career programs. Concentration on developing skills in writing, speaking and reading.

3 Credit Hours: 3 lecture hours; 0 lab hours per week.

MECH 102 Brake and Hydraulic Systems

Brake systems, maintenance, repair and adjustment. Topics include wheel balance and power steering.

1-4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 103 Electrical Systems I

Theoretical and practical aspects of electrical systems and components used on vehicles. Batteries, cranking, charging, ignition, accessory components and circuit wiring will be emphasized.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 104 Electrical Systems II

Study of electronics, regulation systems, injection systems, components and accessories. Circuit understanding, troubleshooting, repair and service will be emphasized.

1-4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 105 Fuel Control Systems

Basic fuel system principles of operation, (electronic feedback carburetion principles), and electronic fuel injection systems will be covered.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 108 Hydraulic Transmissions

The study of theory, operation, service and repair of powershift and/or automatic transmissions.

Emphasis will be placed on current use transmissions. Student skill development in analysis and repair procedures will be stressed.

1-3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 109 Power Trains

A working knowledge of the functions, designs, construction and service of automotive power trains. Course emphasis to be on various types of clutches, three-, four- and five-speed manual transmissions, drive lines, rear axles and differentials.

3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 111 Engine Repair I

An introductory course for the application and principles of operation of modern engines. Emphasis placed on measurement, engine machining, engine repair and general service to engines used in

modern vehicles.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 112 Air Conditioning

Fundamentals of operation and service of air conditioners and cooling units used on auto and agricultural applications.

3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 211 Engine Repair II

Application of theory to engine repair; analysis of engine failures, engine machining, service repair to engine systems. Emphasis on practical decision making and development of repair skills.

4 credit hours: 2 lecture hours; 4 lab hours per week.

MECH 215 Advanced Service I

Prerequisite: Forty-five or more hours completed in the Automotive program.

A laboratory oriented course dealing with simulated field experience. Practical service procedures will be stressed.

6 credit hours: 1 lecture hour; 10 lab hours per week.

MECH 219 Diesel Engines

A study of foreign and American small and midsize diesel engine systems. Emphasis on service of the fuel systems and engine components peculiar to the diesel engine.

3 credit hours: 2 lecture hours; 2 lab hours per week.

MECH 290 Work Experience Internship Seminar

Course would serve as a counseling/training supplement for students on service internship. Among the topics covered are interpersonal relationships, job requirements, liability and legal concerns, tool and equipment needs and technical instruction on current problems.

1 credit hour: 1 lecture hour; 0 lab hours per week.

Black Hawk College – Academic Planning Checklist
Automotive Repair Technology
Associate in Applied Science Degree ⁹²⁹⁸

Name: _____

Date: _____

General Education Courses			
Computer Science			
<input type="checkbox"/> CS 100 – Introduction to Computers			
Electives			
<input type="checkbox"/> AUTO or MECH (6 hours)			
<input type="checkbox"/> MATH (3 hours)			
<input type="checkbox"/> MECH Elective (3 hours)			
<input type="checkbox"/> Science (3 hours)			
Program Requirements			
Courses		Semester taken	Grade
<input type="checkbox"/> AUTO 107 – Engine Performance I	4	_____	_____
<input type="checkbox"/> AUTO 115 – Wheel Alignment and Suspension	4	_____	_____
<input type="checkbox"/> AUTO 207 – Engine Performance II	3	_____	_____
<input type="checkbox"/> AUTO 299 – ASE Review	1	_____	_____
<input type="checkbox"/> BA 110 – Introduction to Business	3	_____	_____
<input type="checkbox"/> COMM 100 – Communication Skills	3	_____	_____
<input type="checkbox"/> MECH 102 – Brake and Hydraulic Systems	4	_____	_____
<input type="checkbox"/> MECH 103 – Electrical Systems I	4	_____	_____
<input type="checkbox"/> MECH 104 – Electrical Systems II	3	_____	_____
<input type="checkbox"/> MECH 105 – Fuel Control Systems	4	_____	_____
<input type="checkbox"/> MECH 108 – Hydraulic Transmissions	3	_____	_____
<input type="checkbox"/> MECH 111 – Engine Repair I	4	_____	_____
<input type="checkbox"/> MECH 112 – Air Conditioning	3	_____	_____
<input type="checkbox"/> MECH 211 – Engine Repair II	4	_____	_____
<input type="checkbox"/> MECH 290 – Work Experience Inter Seminar	1	_____	_____

Suggested electives: AUTO 100, 101; MECH 109, 215, 219, 291

Black Hawk College – Academic Planning Checklist

Automotive Repair

Certificate Code 5710

Name: _____

Date: _____

Program Requirements		
Courses		Semester taken Grade
<input type="checkbox"/> AUTO 107 – Engine Performance I	4	_____
<input type="checkbox"/> AUTO 115 – Wheel Alignment and Suspension	4	_____
<input type="checkbox"/> AUTO 207 – Engine Performance II	3	_____
<input type="checkbox"/> MECH 102 – Brake and Hydraulic Systems	4	_____
<input type="checkbox"/> MECH 103 – Electrical Systems I	4	_____
<input type="checkbox"/> MECH 104 – Electrical Systems II	3	_____
<input type="checkbox"/> MECH 105 – Fuel Control Systems	4	_____
<input type="checkbox"/> MECH 108 – Hydraulic Transmissions	3	_____
<input type="checkbox"/> MECH 109 – Power Trains	3	_____
<input type="checkbox"/> MECH 111 – Engine Repair I	4	_____
<input type="checkbox"/> MECH 112 – Air Conditioning	3	_____
<input type="checkbox"/> MECH 211 – Engine Repair II	4	_____

First Year

FALL SEMESTER SUGGESTED COURSES		Credit Hours
PT 111	Heritage I	1
PT 112	Basic Pipe Trade Concepts	2
PT 113	Industrial Safety	1
PT 114	Math I	2

SPRING SEMESTER SUGGESTED COURSES

PT 115	Pipe Trades Technology I	3
PT 116	Occupational Field Training	1

Second Year

FALL SEMESTER SUGGESTED COURSES		Credit Hours
PT 121	Pipe Trades Technology II	3
PT 122	Scientific Principles	1
PT 123	Human Relations	1

SPRING SEMESTER SUGGESTED COURSES

PT 124	Welding Techniques I	2
PT 125	Math II	2
PT 126	Occupational Field Training	1

Third Year

FALL SEMESTER SUGGESTED COURSES		Credit Hours
PT 231	Pipe Trades Technology III	3
PT 232	Welding Techniques II	2
PT 233	Math III	2

SPRING SEMESTER SUGGESTED COURSES

PT 113:	Industrial Safety	1
PT 236	Occupational Field Training	1

Fourth Year

FALL SEMESTER SUGGESTED COURSES		Credit Hours
PT 240	Pipe Trades Technology IV	3
PT 241	Medical Gas Installation	1

SPRING SEMESTER SUGGESTED COURSES

PT 242	Welding Techniques III	3
PT 243	Math IV	2
PT 244	Heritage II	1
PT 246	Occupational Field Training	1

Fifth Year

FALL SEMESTER SUGGESTED COURSES		Credit Hours
PT 249	Welding Techniques IV	3
PT 250	Pipe Trades Technology V	2

SPRING SEMESTER SUGGESTED COURSES

PT 251	Certification Seminar	3
PT 113	Industrial Safety	1
PT 256	Occupational Field Training	1

Minimum total hours required for a certificate 50

AutoCAD Certificate

Certificate Code 5796

Contact Persons: QC Campus, Adebayo Badmos, Ext. 5280, Rm. 2-156; Ravi Manimaran, Ext. 5279 Rm. 2-158, Glenn Saddoris, Ext. 5283, Rm. 2-153; Stephanie Allers, Ext. 5160, Rm. 1-220.

Graduates of the Engineering Technology AutoCAD Certificate program will be equipped to operate in the new technological environment and will have a valuable skill in using AutoCAD that employers need to remain competitive in the global market.

Manufacturing is evolving from human power to technology. In Illinois, there have been fewer jobs in manufacturing, but higher productivity levels. This productivity is a result of incorporating technology into the manufacturing processes.

	Credit Hours
ENGT 101 Blueprint/Schematic Reading	3
ENGT 102 Fundamentals of AutoCAD	2
ENGT 172 AutoCAD I – 2D Graphics	3
ENGT 222 AutoCAD II – 3D Graphics	3
ENGT 272 Computer Aided Drafting I	2
MATH 123 Technical Algebra/Trigonometry	4

Minimum total hours required for a certificate 17

Automotive Repair

Certificate Code 5710

Contact Person: East Campus, Gary Werkheiser, Ext. 1833, Rm. B-116; or Angela Heckman, Ext. 1724, Rm. A-202B

The Automotive Repair Certificate program provides practical knowledge of the component parts and the fundamentals of operation of the automobile as well as diagnostic and repair procedures. Classroom and laboratory instruction is provided. Students completing the certificate may be employed as brake specialists, wheel alignment and suspension specialists, air conditioning specialists, transmission specialists, or automotive repair specialists in automotive repair businesses and automotive dealerships. The Automotive Repair Certificate differs from the Automotive Repair Technology degree in that it is comprised of only auto and mechanics courses and may be completed in one year.

Enrollment in the Automotive Repair program is limited. Students are required to provide their own basic set of tools. Information on admission requirements and required tools may be secured from one of the contact persons or the Enrollment Services Office.

	Credit
FALL SEMESTER	Hours
AUTO 107 Engine Performance I	4
MECH 102 Brake and Hydraulic Systems	4
MECH 103 Electrical Systems I	4
MECH 111 Engine Repair I	4

SPRING SEMESTER	
AUTO 115 Wheel Alignment and Suspension	4
MECH 104 Electrical Systems II	3
MECH 108 Hydraulic Transmissions	3
MECH 109 Power Trains	3
MECH 211 Engine Repair II	4

SUMMER SEMESTER	
AUTO 207 Engine Performance II	3
MECH 105 Fuel Control Systems	4
MECH 112 Air Conditioning	3
Minimum total hours required for certificate	43

Automotive Repair Technology

Associate in Applied Science Code 9298

Contact Person: East Campus, Gary Werkheiser, Ext. 1833, Rm. B-116; or Angela Heckman, Ext. 1724, Rm. A-202B

The Automotive Repair Technology program provides a proper balance of theory and practical knowledge for students preparing for careers in the automotive service industry. Graduates of the program may become employed as automotive mechanic technicians, transmission specialists, service managers, or service writers in automotive dealerships and automotive repair businesses.

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The Automotive Repair Certificate program provides practical knowledge of the component parts and the fundamentals of operation of the automobile as well as diagnostic and repair procedures. Classroom and laboratory instruction is provided. Students completing the certificate may be employed as brake specialists, wheel alignment and suspension specialists, air conditioning specialists, transmission specialists, or automotive repair specialists in automotive repair businesses and automotive dealerships. The Automotive Repair Certificate differs from the Automotive Repair Technology degree in that it is comprised of only auto and mechanics courses and may be completed in one year.

Enrollment in this program is limited. Students are required to provide their own basic set of tools. Information on admission requirements and required tools may be secured from one of the contact persons or the Enrollment Services Office.

First Year

FALL SEMESTER SUGGESTED COURSES	Credit
AUTO 107 Engine Performance I	4
MECH 102 Brake and Hydraulic Systems	4
MECH 103 Electrical Systems I	4
MECH 111 Engine Repair I	4

SPRING SEMESTER SUGGESTED COURSES	Credit
AUTO 115 Wheel Alignment and Suspension	4
MECH 104 Electrical Systems II	3
MECH 108 Hydraulic Transmissions	3
MECH 211 Engine Repair II	4
MECH Elective	3

SUMMER SEMESTER SUGGESTED COURSES	Credit
AUTO 207 Engine Performance II	3
AUTO 299 ASE Review	1
MECH 105 Fuel Control Systems	4
MECH 112 Air Conditioning	3
MECH 290 Work Experience Inter Seminar	1

Second Year

FALL SEMESTER SUGGESTED COURSES	Credit
CS 100 Intro to Computers	3
COMM 100 Communication Skills	3
MATH Elective	3
Science Elective	3

SPRING SEMESTER SUGGESTED COURSES	Credit
BA 110 Introduction to Business	3
AUTO or MECH Electives	6

Minimum total hours required for degree 66

Suggested electives: AUTO 100, 101; MECH 109, 215, 219, 291

Brake Specialist

Certificate Code 5512

Contact Person: East Campus, Gary Werkheiser, Ext. 1833, Rm. B-116; or Angela Heckman, Ext. 1724, Rm. A-202B

The Brake Specialist certificate program provides practical knowledge of the component parts as well as the diagnostic and repair procedure required to become a brake technician. Students completing the certificate may be employed as entry-level brake technicians in brake specialty shops, automotive repair businesses, or automotive dealerships. This program may be completed in one semester.

Astronomy

ASTR 101 Descriptive Astronomy 4 cr. hrs.

For non-science majors. The solar system: structure and motions of the planets, comets, meteors, and origin and evolution of the solar system. 3 lecture hours; 2 lab hours per week. IAI: P1 906L

ASTR 102 Descriptive Astronomy 4 cr. hrs.

For non-science majors. Stars: distances, motions, dimensions, structure, origin, and evolution. Structure of the Milky Way and other galaxies. Structure and origin of the universe. 3 lecture hours; 2 lab hours per week. IAI: P1 906L

Automotive Mechanics

AUTO 100 Basic Vehicle Maintenance and Repair I 3 cr. hrs.

A study of suspension systems and repair. Principles of wheel alignment, repair and adjustment. 2 lecture hours; 2 lab hours per week.

AUTO 101 Basic Vehicle Maintenance II 3 cr. hrs.

A continuation of a fundamental course in general vehicle maintenance. Students will be introduced to a variety of components and service procedures dealing with vehicle drive trains and suspension systems. They will also be oriented in the techniques associated with the operation and management of a service facility. 2 lecture hours; 2 lab hours per week.

AUTO 107 Engine Performance I 4 cr. hrs.

A study of today's auto ignition, fuel delivery, air induction and emissions systems integrated under a computerized control system. 2 lecture hours; 4 lab hours per week.

AUTO 115 Wheel Alignment and Suspension 4 cr. hrs.

A study of suspension systems and repair. Principles of wheel alignment, repair, and adjustment. 2 lecture hours; 4 lab hours per week.

AUTO 121 Auto Body I 3 cr. hrs.

An introductory course in the fundamentals of auto body repair. Emphasized in the course are metal straightening, leading, use of plastics and filler, paint preparation and painting. Students will complete lab projects. 2 lecture hours; 2 lab hours per week.

AUTO 122 Auto Body II 3 cr. hrs.

Prerequisite: AUTO 121 or have developed sufficient skills by practical use.

A further study of the procedures and principles involved in auto body repair. Emphasis is placed on building on the skills developed in AUTO 121. 2 lecture hours; 2 lab hours per week.

AUTO 207 Engine Performance II 3 cr. hrs.

A detailed study of today's computer controlled systems and how they interrelate. Emphasis on diagnosis and test

procedures and how they relate to drivability problems. 2 lecture hours; 2 lab hours per week.

AUTO 291 Work Experience Internship 6 cr. hrs.

On-the-job training program. Emphasis is placed on organizing skill development experiences in a work setting. 0 lecture hours; 30 lab hours per week.

AUTO 299 ASE Review 1 cr. hr.

Review course to prepare for the ASE exams. Sample questions, reasons behind the answers, and test taking techniques will be covered. 1 lecture hour; 0 lab hours per week.

Business Administration

BA 110 Introduction to Business 3 cr. hrs.

Basic course introducing major kinds of business organizations and forms of ownership. Study of vocabulary and functions of activities such as financing, marketing, management, personnel administration, and international business. IAI BUS 911. 3 lecture hours; 0 lab hours per week.

BA 111 Business Relations I 1 cr. hr.

Orients students to the most acceptable modes of business dress and common business etiquette. 1 lecture hour; 0 lab hours per week.

BA 112 Business Relations II 1 cr. hr.

Provides the basic elements of active participation in business meetings. 1 lecture hour; 0 lab hours per week.

BA 113 Business Relations III 1 cr. hr.

Provides an orientation to typical service projects conducted by contemporary businesses. 1 lecture hour; 0 lab hours per week.

BA 118 Small Business Simulations 3 cr. hrs.

This course provides an online simulation for establishing or purchasing a small business or franchise. This course is appropriate for beginning and would-be entrepreneurs. Suggested co-requisites: BA 121, Small Business Management. 3 lecture hour; 0 lab hours per week.

BA 121 Small Business Management 3 cr. hrs.

Hands-on course designed to prepare the student for possible ownership of their own small business. Topics to be covered include market research, financing, organization structure, management skills, and marketing procedures. Also, skills and time requirements needed to own and operate your own business. Students will be provided an opportunity to produce a business plan that would fit their current or future business needs. 3 lecture hours; 0 lab hours per week.

MATH 235 Differential Equations 3 cr. hrs.

Prerequisite: MATH 226 "C" or better.

Study of ordinary differential equations, existence and uniqueness of solutions, and related theorems. Topics include variation of parameters, systems, numerical approximations, and transform methods. 3 lecture hours; 0 lab hours per week. IAI: MTH 912

Mechanics**MECH 102 Brake and Hydraulic Systems 1-4 cr. hrs.**

Brake systems, maintenance, repair and adjustment. Topics include wheel balance and power steering. 2 lecture hours; 4 lab hours per week.

MECH 103 Electrical Systems I 4 cr. hrs.

Theoretical and practical aspects of electrical systems and components used on vehicles. Batteries, cranking, charging, ignition, accessory components and circuit wiring will be emphasized. 2 lecture hours; 4 lab hours per week.

MECH 104 Electrical Systems II 1-4 cr. hrs.

Study of electronics, regulation systems, injection systems, components and accessories. Circuit understanding, troubleshooting, repair and service will be emphasized. 2 lecture hours; 4 lab hours per week.

MECH 105 Fuel Control Systems 4 cr. hrs.

Basic fuel system principles of operation, (electronic feedback carburetion principles), and electronic fuel injection systems will be covered. 2 lecture hours; 4 lab hours per week.

MECH 108 Hydraulic Transmissions 1-3 cr. hrs.

The study of theory, operation, service and repair of powershift and/or automatic transmissions. Emphasis will be placed on current use transmissions. Student skill development in analysis and repair procedures will be stressed. 2 lecture hours; 2 lab hours per week.

MECH 109 Power Trains 3 cr. hrs.

A working knowledge of the functions, designs, construction and service of automotive power trains. Course emphasis to be on various types of clutches, three-, four- and five-speed manual transmissions, drive lines, rear axles and differentials. 2 lecture hours; 2 lab hours per week.

MECH 111 Engine Repair I 4 cr. hrs.

An introductory course for the application and principles of operation of modern engines. Emphasis placed on measurement, engine machining, engine repair and general service to engines used in modern vehicles. 2 lecture hours; 4 lab hours per week.

MECH 112 Air Conditioning 3 cr. hrs.

Fundamentals of operation and service of air conditioners and cooling units used on auto and agricultural applications. 2 lecture hours; 2 lab hours per week.

MECH 211 Engine Repair II 4 cr. hrs.

Application of theory to engine repair; analysis of engine failures, engine machining, service repair to engine systems. Emphasis on practical decision making and development of repair skills. 2 lecture hours; 4 lab hours per week.

MECH 213 Business Management 3 cr. hrs.

A course specially designed for Automotive Technology students, centering on organization and management of dealerships with emphasis on parts and service department operating procedures. 3 lecture hours; 0 lab hours per week.

MECH 215 Advanced Service I 6 cr. hrs.

Prerequisite: Forty-five or more hours completed in the Automotive program.

A laboratory oriented course dealing with simulated field experience. Practical service procedures will be stressed. 1 lecture hour; 10 lab hours per week.

MECH 219 Diesel Engines 3 cr. hrs.

A study of foreign and American small and midsize diesel engine systems. Emphasis on service of the fuel systems and engine components peculiar to the diesel engine. 2 lecture hours; 2 lab hours per week.

MECH 290 Work Experience Internship Seminar 1 cr. hr.

Course would serve as a counseling/training supplement for students on service internship. Among the topics covered are interpersonal relationships, job requirements, liability and legal concerns, tool and equipment needs and technical instruction on current problems. 1 lecture hour; 0 lab hours per week.

Military Science**MS 113 Intro to Military Science 2 cr. hrs.**

This course is an introduction to the Military System focusing on basic Army knowledge. It is a survey course designed to encourage development of fundamental leadership and management skills which provide a foundation for personal growth and leadership study. 2 lecture hour; 0 lab hours per week.

MS 211 Basic Military Science I 2 cr. hrs.

Methods of military instruction and introduction to educational psychology applicable in military instruction, effective techniques in presentation, and the role of the Army in national defense. 2 lecture hours; 0 lab hours per week.

MS 212 Basic Military Science II 2 cr. hrs.

Military map reading and land navigation, and introduction to military leadership and management. Application of map reading with introduction and practical exercise. 2 lecture hours; 0 lab hours per week.

ICCB ACCOUNTABILITY AND PROGRAM REVIEW REPORT

Career and Technical Education Programs

College Name: Black Hawk College 5-digit College Number: 50301 Date: FY2011
 CIP Code Category and Number: Automotive Repair Technology (470604)

CREDIT HOUR GENERATION

PCS-12	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Credit Hours	820	711	740	871	547	567	804
% Change	--	-13.29%	4.08%	17.70%	-37.20%	3.66%	41.80%

PCS-16	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Credit Hours	0	0	0	0	0	0	0
% Change	--	--	--	--	--	--	--

Source: Illinois Community College Board's Unit Cost Report. Based on credit hours generated by CIP codes listed above.

UNIT COST ANALYSIS (Cost to provide one credit hour instruction to one student)

PCS-12	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Departmental	280.40	298.72	269.98	268.12	317.27	253.48	239.78
Peer Group	279.04	259.66	290.87	276.88	287.00	284.45	n/a
State Average	257.16	243.68	265.35	277.97	284.54	303.62	n/a

PCS-16	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Departmental	--	--	--	--	--	--	--
Peer Group	302.31	280.99	--	--	--	--	n/a
State Average	306.79	303.43	231.57	245.13	272.95	290.06	n/a

Source: Illinois Community College Board's Unit Cost Report.

Based on credit hours and net instructional costs generated by CIP codes listed above.

REVENUE-TO-COST RATIO

Mechanical Power Tech Department Code: 1428

	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Revenue-to-Cost Ratio: QC	--	--	--	--	--	--	n/a
Revenue-to-Cost Ratio: East	0.87	0.88	0.96	1.05	0.65	1.33	n/a

Source: Curriculum Review Analysis based on Unit Cost data sorted by Black Hawk College Department Codes

PROGRAMS INCLUDED IN REVIEW

Prefix	Number	Title	Type
AUTO	5710	Automotive Repair	20
RVS	5597	Recreational Vehicle Repair	20
0516	5609	Advanced Automotive Technology (Withdrawn)	20
0516	5608	Basic Automotive Technology (Withdrawn)	30
0516	5512	Brake Specialist	30
0516	5513	Air Conditioning Specialist	30
0516	5514	Wheel Alignment/Suspension	30
APS	5510	Automotive Power Service	30
APT	9298	Automotive Repair Technology	03

Source: Curriculum Master File