

## **PROGRAM OF STUDY**

### **Electrical and Electronic Systems Certificate of Achievement**

#### **Statement of Program Goals and Objectives**

The focus of the Automotive Department as a whole is to equip students with the necessary knowledge and technical skills to successfully enter the workforce in the automotive industry, transportation industry, agriculture industry, and other related industrial and mechanical fields. This certificate will equip students to perform service, diagnosis, and repair on electrical and electronic systems in the above listed industries.

#### **Program Background and Rationale**

Restructuring of automotive courses necessitated the modification of an existing certificate in this area. The material in these courses are part of our national certification and accreditation through National Automotive Technicians Education Foundation (NATEF) and Automotive Service Excellence (ASE) core requirements.

**This program prepares students for careers in: Automotive, Transportation, Agricultural, Oilfield and Construction Industries.**

#### **Catalog Description**

The Electrical and Electronic Systems Certificate signifies that the student has developed skills in the diagnosis and repair of various types of electrical and electronic systems found in automotive, agriculture and industrial applications. Students can implement the skills developed in these courses in dealerships, independent repair shops, performance shops, construction companies, agriculture companies, government agencies, etc. Students earning this certificate will be prepared to further pursue certification through ASE in the A6, T6, H6, S6, and L3 areas as well as certification for the Lamp Adjuster License.

#### **Program Learning Outcomes**

1. Students will demonstrate proficiency in technical skills and safety principles required for employment in the transportation and related industries performing electrical and electronic repair work.

Assessment: The faculty will track success rates on safety tests, technical exams and lab tasks.

2. Students will demonstrate their ability to assess, evaluate and solve problems common to electrical and electronic repair in the automotive, industrial, and agricultural industries.

Assessment: The faculty will evaluate project based outcomes in the required courses, examinations and lab activities.

3. Students will demonstrate a thorough understanding of the core material of electrical and electronic systems required for transfer to a four year university or certification in the department programs.

Assessment: The faculty will track success rates for the required courses, completion rates of the certificate of achievement and degree as well as completion of industry certificates.

### Program Matrix

Courses	Program Learning Outcomes		
	A	B	C
AUTO B11	X		
AUTO B30	X	X	X
AUTO B31	X	X	X
AUTO B33	X	X	

### Planning Summary

Program Cover	
Recommended T.O.P. Code	00948
Units for Degree Major or Area of Emphasis	NA
Total Units for Degree	NA
Required Units-Certificate	17
Projected Annual Completers	10
Projected Net Annual Labor Demand (CTE)	200
Estimated FTE Faculty Workload	0 additional
Number of New Faculty Positions	0 additional
Est. Cost, New Equipment	0
Cost of New/Remodeled Facility	0
Est. Cost, Library Acquisitions	0
When will this program undergo review as part of college's Program Evaluation Plan?	70 = Fall 2016
<b>Need</b>	
Enrollment and Completer Projections	10 students per year

<b>Place of Program in Curriculum/Similar Programs</b>	Other colleges offer similar programs
<b>'Similar Programs at other colleges in service area</b>	Yes, this is a common program.
<b>Labor Market Information &amp; Analysis (CTE only)</b>	Based on EDD statistics there are almost 200 job openings that fall under the 00948 TOP code. This certificate serves the workforce in the automotive industry, transportation industry, agriculture industry, and other related industrial and mechanical fields.
<b>Employer Survey (CTE only)</b>	200 related job openings per year
<b>Explanation of Employer Relationship (CTE Only)</b>	Over 35 local employers in Bakersfield are members of the advisory committee for the Automotive Department at Bakersfield College.
<b>List of Members and Advisory Committee (CTE Only)</b>	Phillip Astumian, Patrick Beck, Arnold Burr, Ivan Coffman, Bruce Cox, Ron Dyer, David Friday, Dave Monty, Mike Hawkesworth, Barry Hopfe, Bob Klingenberg, Bob Kopp, Roger Lee, Gary Massie, Tom McHugh, Tom Moser, Ted Nicholas, Andy Pappas, Greg Pierucci, John Pitre, Nate Ruiz, Bruce Sherley, Glen Spence, Don Thornsberry, Randy Timmons, George White, Mitch Mullan, Dave Comstock, Dan Blanton, Dave Owens, Evan Bass, John Watson, George Rice, Leonardo Pacheco, Craig Henderson, Mike Ariola,
<b>Recommendations of Advisory Committee (CTE Only)</b>	Yes, this was a recommendation of the advisory committee. See Attachment
<b>Adequate Resources</b>	
<b>Library and/or Learning Resources Plan</b>	yes
<b>Facilities and Equipment Plan</b>	yes
<b>Financial Support Plan</b>	yes
<b>Faculty Qualifications and Availability</b>	yes
<b>Compliance</b>	
<b>Based on model curriculum (if applicable)</b>	The material in these courses are part of our national certification and accreditation through National Automotive Technicians Education Foundation (NATEF) and Automotive Service Excellence (ASE) core requirements.
<b>Licensing or Accreditation Standards</b>	The material in these courses are part of our national certification and accreditation through National Automotive Technicians Education Foundation (NATEF).
<b>Student Selection and Fees</b>	Standard
<b>Attachment</b>	

## Student Education Plan (SEP) Pathway

**Goal:** develop a pattern of courses including both major and general education courses for college-ready students earning their degree in 2 years.

**Pathway Guidelines:**

1. Create a pattern of course-taking for a full-time student (12-16 units per semester=60 units total).
2. Start the pathway at college level. Academic Development will create a pathway for underprepared students.
3. Research demonstrates that students who complete their English and Math first are more successful.
4. Be sure the order of the coursework includes prerequisites taken at appropriate times.
5. Consider a balance between major courses, general education courses and easy versus hard courses.

**Degree** Electrical and Electronic Systems    AA   AS   AA-T   AS-T   COA>18 units   COA<18 units   JSC

**GE Pathway:**   IGETC (UC pathway)   CSU Breadth   BC Gen Ed (Certificates and Job Skills do not need General Education)

**Step 1:** Enter major courses by name and number.

**Step 2:** Choose appropriate GE courses fulfilling the GE pathway indicated above by course name, number, and category the course fulfills.

First Semester	Gen Ed	Units
AUTO B11		4
AUTO B30		4
<b>Total</b>		<b>8</b>

Second Semester	Gen Ed	Units
AUTO B31		5
AUTO B33		4
<b>Total</b>		<b>9</b>

Third Semester	Gen Ed	Units

Fourth Semester	Gen Ed	Units

Faculty Lead for Pathway: Justin Flint/Vic Posey    Student Affairs Lead for Pathway: \_\_\_\_\_  
 Department approval date 9-2-15

## Bakersfield College Automotive Advisory Committee

Certificate and Degree Subcommittee meeting 9-16-15

Present – Ted Nicolas, John Pitrie, Bob Klingenburg, Tom Moser, Mitch Mullan, Justin Flint, Vic Posey

1:00 - Ted called to order

Justin and Vic presented the proposed Certificates and Degree that the Automotive Program would like to offer beginning in the Fall 2016 semester. The courses associated with each certificate and degree were reviewed as well as the multiple pathways the new offerings would create. Timeline scenarios for each certificate and degree were also discussed. The general consensus of the committee was that this would provide the student with many options for training while offering a well balanced, thorough education that preserves a high quality learning environment.

Tom made a motion to approve the certificates and degree as presented. Ted John seconded the motion. All were in favor. None opposed.

1:55 - Ted called the meeting to order