AUTOMOTIVE CAREER EDUCATION, BACHELOR IN SCIENCE

The Bachelor of Science in Automotive Career Education (ACE) provides the overall knowledge and skills needed within today's high-tech automotive industry. The program primarily specializes in vehicle electrification, supporting systems, advanced driver assistance systems (ADAS), autonomous systems, and emerging technologies.

The program builds on the college's existing lower division program that is a master certified Automotive Service Excellence Education Foundation (ASEEF) accredited program and is suitable for students wanting to further their education and career opportunities. Students will also receive training in various business, ethics, management, and technical courses such as diagnostic methods and a Capstone research project.

All courses designated as an upper division major requirement must be completed with a minimum grade of "C" (or "P") for each course in the major

Admission to the Bachelor in Science in Automotive Career Education program is by application based on a multi-criteria selection process.

Course ID	Title	Units/ Hours
Required Lower Division Core Courses		
ACE V11	Automotive Vehicle Maintenance	3
ACE V12	Automotive Electrical Systems I	4
ACE V13	Automotive Engine Repair	4
ACE V21	Automotive Brake Systems	4
ACE V22	Automotive Steering and Suspension Systems	4
ACE V23	Automotive Electrical Systems II	4
ACE V31	Automotive Heating and Air Conditioning	4
ACE V32	Automotive Engine Management	4
ACE V33	Automotive Manual Transmissions and Transaxles	4
ACE V41	Automotive Automatic Transmissions and Transaxles	4
ACE V42	Automotive Engine Driveability	4
Required Lower Division Core Units		**43**
Required Lower Division General Education Units		**34-49**
CSU General Education Breadth Units		**44-49**
IGETC Units		**34-37**
Cal-GETC Units		**34**
Required Upper Division Core Courses		
All courses designated as an upper division major requirement must be completed with a minimum grade of "C" (or "P") for each course in the major.		
ACE V310	Electrified Vehicle Safety	4
ACE V311	Electrified Vehicle Classification and System Design	5
ACE V320	Electrified Vehicle Supporting Systems	5
ACE V321	Electrified Vehicle Diagnostic Processes and Equipment	5
ACE V322	Methods of Research (Capstone 1)	2
ACE V430	Advanced Driver Assistance Systems	5
ACE V431	Advanced Convenience and Comfort Systems	5
ACE V440	Transportation Standards, Laws, and Regulations	5
ACE V441	Research Project (Capstone 2)	3
Required Upper Division Core Units		**39**
Required Upper Division General Education Courses		
BUS V312	Business Management and Operations	3
SOC V432	Ethics, Society, and Technology	3
COMM V442	Applied Business and Professional Communication for Managers	4
Required Upper Division General Education Units		**10**

Total Major Units		**82**

Total Units for the B.S. Degree		**126-141**

The lower division general education courses should be completed during years 1 and 2. The semester order in which students satisfy the upper division GE courses may vary from the sample plan.

Year 1		
Fall Semester		**Units/Hours**
ACE V11	Automotive Vehicle Maintenance	3
ACE V12	Automotive Electrical Systems I	4
ACE V13	Automotive Engine Repair	4
	Units/Hours	**11**
Spring Semester		
ACE V21	Automotive Brake Systems	4
ACE V22	Automotive Steering and Suspension Systems	4
ACE V23	Automotive Electrical Systems II	4
	Units/Hours	**12**
Year 2		
Fall Semester		
ACE V31	Automotive Heating and Air Conditioning	4
ACE V32	Automotive Engine Management	4
ACE V33	Automotive Manual Transmissions and Transaxles	4
	Units/Hours	**12**
Spring Semester		
ACE V41	Automotive Automatic Transmissions and Transaxles	4
ACE V42	Automotive Engine Driveability	4
	Units/Hours	**8**
Year 3		
Fall Semester		
ACE V310	Electrified Vehicle Safety	4.0
ACE V311	Electrified Vehicle Classification and System Design	5
BUS V312	Business Management and Operations	3
	Units/Hours	**12**
Spring Semester		
ACE V320	Electrified Vehicle Supporting Systems	5
ACE V321	Electrified Vehicle Diagnostic Processes and Equipment	5
ACE V322	Methods of Research (Capstone 1)	2
	Units/Hours	**12**

Year 4		
Fall Semester		
ACE V430	Advanced Driver Assistance Systems	5
ACE V431	Advanced Convenience and Comfort Systems	5
SOC V432	Ethics, Society, and Technology	3
	Units/Hours	**13**
Spring Semester		
ACE V440	Transportation Standards, Laws, and Regulations	5
ACE V441	Research Project (Capstone 2)	3
COMM V442	Applied Business and Professional Communication for Managers	4
	Units/Hours	**12**
	Total Units/Hours	**92**

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of safety in the repair and service associated with electrified vehicles.
- Identify and describe theory and operation of electrified vehicle classifications, systems, and supporting systems.
- Perform critical thinking to diagnose, repair, and test electrified vehicle systems and supporting systems.
- Demonstrate an understanding of laws, regulations, and standards related to electrified vehicles.
- Produce a professional research report and presentation representing their opinion on an approved topic related to electrified vehicles and the automotive industry.