



ADVANCED TRANSPORTATION TECHNOLOGY

Curriculum Guide for Academic Year 2021-2022

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Students planning to **transfer** to a four-year college or university should refer to the ASSIST web site at www.assist.org and **consult a counselor** before beginning a program of study. Please call (562) 938-4561 (LAC) or (562) 938-3920 (PCC) to schedule a counseling appointment. Students may also wish to visit the Transfer Center on either campus.

Program of study leading to: Associate in Science (A.S.)			Units	In Progress	Completed Grade
Required Major Coursework:					
AUTO 200	Introduction to Automotive Technology	3			
AUTO 201	Automotive Lubrication Service	1			
AUTO 202	Automotive Tire Service	1			
AUTO 203	Automotive Brake Inspection	1			
AUTO 230	Automotive Computer System	3			
AUTO 216	Automotive Computer Systems	3			
AUTO 270	Intro to Hybrid and Electric Vehicles	3			
AUTO 271	Intro to Alternative Fuel Systems	3			
AUTO 280	Light Duty Electric Vehicles	3			
AUTO 281	Light Duty Hybrid Vehicles	3			
AUTO 282	Light Duty Alternative Fuels	3			
AUTO 283	Light Duty EV Powertrain Diagnostics	3			
AUTO 292	Heavy Duty Alternative Fuels	3			
TOTAL UNITS		33			

For graduation with an **Associate in Science (A.S.) Degree with a major in Advanced Transportation Technology:**

- Minimum Unit Requirements:** Any course that appears on a curriculum guide and the General Education Pattern (Plan A) may fulfill both major and general education requirements (Approved by College Curriculum Committee Spring 2012). Any course that appears on a curriculum guide and the General Education Pattern (Plan A) may fulfill both major and general education requirements (Approved by College Curriculum Committee Spring 2012). For this degree, complete a minimum of 60 units in courses numbered 1-599. Please note that additional elective units may be required to meet this minimum based upon courses selected to fulfill General Education for the Associate Degree.

Advanced Transportation Technology Major 33 units
General Education/A.S. § 19.0 units

- Scholarship:** Maintain an **overall grade point average (GPA) of 2.0** ("C" average) based on all accredited college work applied to the degree, no matter where completed. For this **field of concentration, complete each course above with a grade of "C" or better**, or "P" if course is graded on a P/NP basis.
- Residence for the Degree:** Complete at least 12 semester units of the required 60 semester units in residence at Long Beach City College in order for the college to grant an Associate of Arts and/or an Associate of Science Degree.
- Residence for the Field of Concentration:** Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 16.5 units** of the required 33 must be **completed at Long**

- Beach City College.** Credit earned by exam, where applicable, may be included.
- Complete and submit the degree application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu/> . Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the "Important Dates" link to view the actual deadline for each semester.

*The requirements for general education/proficiency and the field of concentration (major) need to be from the same catalog year. This catalog year may be any year between the years of initial enrollment to the present, provided continuous enrollment is maintained throughout. See the catalog for definition of "continuous enrollment".

Program of study leading to:
Certificate of Achievement, Advanced Transportation Technology

REQUIRED COURSES—Complete the 33 units of required courses as listed in the Associate Degree requirements box on the first page.

<u>REQUIRED COURSES</u>	TOTAL UNITS	33	In Progress	Completed

For graduation with a **Advanced Transportation Technology Certificate of Achievement**:

- Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of "C"**, or better, or "P" if course is graded on a P/NP basis.
- Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 16.5 units** of the required 33 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
- Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu/> . Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the "Important Dates" link to view the actual deadline for each semester.

Program of study leading to:
Certificate of Achievement, Alternative Fuel Vehicles

Required Major Coursework:	Units	In Progress	Completed Grade
AUTO 200 Introduction to Automotive Technology	3		
AUTO 211 Automotive Engine Repair	3		
AUTO 230 Automotive Computer System	3		
AUTO 271 Intro to Alternative Fuel Systems	3		
AUTO 282 Light Duty Alternative Fuels	3		
AUTO 292 Heavy Duty Alternative Fuels	3		
TOTAL UNITS	18		

For graduation with a **Alternative Fuel Vehicles Certificate of Achievement**:

- Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of "C"**, or better, or "P" if course is graded on a P/NP basis.
- Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 9 units** of the required 18 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
- Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu/> . Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the "Important Dates" link to view the actual deadline for each semester.

Program of study leading to:
Certificate of Achievement, Electric & Hybrid Vehicles

Required Major Coursework:	Units	In Progress	Completed Grade
AUTO 200 Introduction to Automotive Technology	3		
AUTO 216 Automotive Electrical Systems	3		
AUTO 230 Automotive Computer Systems	3		
AUTO 270 Intro to Hybrid and Electric Vehicles	3		
AUTO 280 Light Duty Electric Vehicles	3		
AUTO 281 Light Duty Hybrid Vehicles	3		
TOTAL UNITS	18		

For graduation with a **Electric & Hybrid Vehicles Certificate of Achievement**:

1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of “C”**, or better, or “P” if course is graded on a P/NP basis.
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 9 units** of the required 18 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
3. Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu/> . Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the “Important Dates” link to view the actual deadline for each semester.

Career Opportunities

This **Associate Degree or Certificate of Achievement** is a two-year program leading to the Associate in Science (A.S.) degree. This degree will help students succeed after transferring to a CSU or UC School Computer Science major program. Students wishing a bachelor’s degree (transfer program) should meet with a counselor to discuss transferability of courses.

Program Mission and Outcomes

Program Student Outcome:

Advanced Transportation Technology (A.S. and Certificate of Achievement):

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Students will analyze and demonstrate their technical knowledge and practical skills to properly and accurately diagnose and repair advanced propulsion systems used in electric, hybrid, and Compressed Natural Gas vehicles.
- Develop the skills to assess and deduce vehicle drive ability concerns pertaining to advanced transportation technologies.

Alternative Fuel Vehicles and Electric & Hybrid Vehicle (Certificate of Achievement):

- Define the pros and cons of various types of propulsion systems of alternative fueled vehicles.
- Formulate diagnostic strategies for resolving vehicle concerns.

Certificate of Achievement, Alternative Fuel Vehicle:

Program Student Learning Outcomes:

- Define the pros and cons of various types of propulsion systems to include electric vehicles and hybrid fueled vehicles.
- Formulate diagnostic strategies for resolving vehicle concerns.

Legend

† This course has a prerequisite. Prerequisite courses must be complete with at least a “C” or “P” grade. Refer to the General Catalog (<http://www.lbcc.edu/cat/index.html>), the Schedule of Classes (<http://schedule.lbcc.edu/>), or the online Credit Course Outline (<http://wdb-asir.lbcc.edu/coursecurriculum/coursedetails/>) for specific prerequisite information.