



ADVANCED TRANSPORTATION TECHNOLOGY

Curriculum Guide for Academic Year 2019-2020

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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: <u>Associate in Science (A.S.)</u>			
Required Major Coursework:		Units	In Progress Completed Grade
AUTO 200	Introduction to Automotive Technology	3	
AUTO 216	Automotive Electrical 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		27	

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

1. **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	27 units
General Education/A.S. §	19.0 units
2. **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.
3. **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.
4. **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 15 units** of the required 68 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
1. **General Education and Proficiency Requirements:** Complete the required A.A./A.S. General Education and Proficiency requirements*, otherwise known as "Plan A". For Plan A requirements, refer to the general catalog or view it online at <http://osca.lbcc.edu> . **Students must complete the courses outlined on the curriculum guide for**

the year in which they take their first nursing course. Students who withdraw from the program will be obligated by the guide of the year of their re-entry into the program.

- 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 year 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 27 units of required courses as listed in the Associate Degree requirements box on the first page.

<u>REQUIRED COURSES</u>	TOTAL UNITS	27	In Progress	Completed

For graduation with a **Radio/Television Performance 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 13.5 units** of the required 27 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 271 Intro to Alternative Fuel Systems	3		
AUTO 282 Light Duty Alternative Fuels	3		
AUTO 292 Heavy Duty Alternative Fuels	3		
TOTAL UNITS	12		

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 6 units** of the required 12 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 270	Intro to Hybrid and Electric Vehicles	3		
AUTO 280	Light Duty Electric Vehicles	3		
AUTO 281	Light Duty Hybrid Vehicles	3		
TOTAL UNITS		15		

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 7.5units** of the required 15 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.

Program of study leading to:
Certificates of Accomplishment

Certificate: Automotive Quick Service 4923

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
AUTO 200	Introduction to Automotive Technology	3		
AUTO 201	Automotive Lubrication Service	1		
AUTO 202	Automotive Tire Service	1		
AUTO 203	Automotive Brake Service	1		
TOTAL UNITS		6		

For graduation with a Certificate of Accomplishment:

1. Complete the above required courses with a minimum grade of "C", or "P" if course is graded on a P/NP basis.
2. Fifty percent (50%) or more of the required units must be completed in residence at LBCC.

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>.

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):

- 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.

Automotive Quick Service (Certificate of Accomplishment):

- Evaluate and prepare vehicles for quick service according to the manufacturer procedures.

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/course/details/>) for specific prerequisite information.