ELECTRICAL TECHNOLOGY, AUTOMATION TECHNICIAN

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:
Associate in Science (A.S.)

Required Major Coursework:

	Course	Title	Units	In Progress	Completed Grade
	ELECT 253	OSHA Standards for Construction Safety	2		
†	ELECT 225	Algebra and Trigonometry for Technicians	4		
†	ELECT 204	First Semester Fundamentals of DC Electricity	4		
†	ELECT 240	Introduction to the National Electrical Code	3		
†	ELECT 209	Second Semester fundamentals of Motor/Generators	4		
†	ELECT 435A	Motor Control Wiring and Troubleshooting	2		
†	ELECT 212	Third Semester Fundamentals of AC Electricity	4		
†	ELECT 214	Fourth Semester AC Principles and Practices	4		
†	ELECT 242	Electrical Code-Grounding	1.5		
		Subtotal Units	28.5		

REQUIRED CONCENTRATION COURSES

	Course	Title	Units	In Progress	Completed Grade
†	ELECT 227	Variable Speed Drive Fundamentals	2		
	ELECT 230A	Robotics Technology-Design	2		
	ELECT 230B	Robotics Technology-Integration	2		
†	ELECT 231	Electro-Hydraulics Pneumatic	2		
†	ELECT 256	High Voltage Safety Awareness	1		
†	ELECT 435B	Programmable Logic Controllers (PLC) 1	2		
			11		
		TOTAL UNITS	**39.5**		

For graduation with an **§Associate in Science (A.S.) Degree with a major in Electrical Technology, Automation Technician:**

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).** 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.

   Electrical Technology, Automation Technician Major: 39.5 units
   General Education/A.S.§   19   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 30 units of the required 60 in residence at LBCC, or complete in residence at LBCC at least 20 units within the last 30 units of work applied to the 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 19.25 units** of the required 39.5 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
5. **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 .
6. 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

REQUIRED COURSES—Complete the 39.5 units of required courses as listed in the Associate Degree requirements box.

TOTAL UNITS	**39.5**	

For graduation with a **Electrical Technology: Automation Technician Certificate of Achievement:**
1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of** "**C**".
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 20 units** of the required 39.5 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:
Certificates of Achievement – Automation Technician

REQUIRED COURSES			UNITS	In Progress	Completed Grade
†	ELECT 227	Variable Speed Drive Fundamentals	2		
	ELECT 230A	Robotics Technology-Design	2		
	ELECT 230B	Robotics Technology-Integration	2		
†	ELECT 231	Electro-Hydraulic and Pneumatic Systems	2		
†	ELECT 256	High Voltage Safety Awareness	1		
†	ELECT 435B	Programmable Logic Controllers (PLC) 1	2		
		TOTAL UNITS	**11**		

For graduation with a **Automation Technician 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:
   For the **Core Skills** Certificate, complete at **least 5.5 units** of the required 11 at **Long Beach City College**. For the **Advanced Skills** Certificate, complete at **least 17.5-18.5** of the required 32-37 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.

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 Outcomes:
- Develop procedures for the successful installation, maintenance and troubleshooting of robotic, PLC and automation control systems.

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.

A.S. = 2991; C-ACH = 3991; C-ACH = 3931

Departmental Phone: 562-938-3500 Web Site:
Information on this sheet is subject to change without notice. Any updates to this guide are posted at http://osca.lbcc.edu .