

# ENGINEERING

## Curriculum Guide for Academic Year 2020-2021

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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](http://www.assist.org) and **consult a counselor** before beginning a program of study. Please call (562) 938-4561 for the LAC, or (562) 938-3920 for PCC to schedule a meeting with a counselor. Students may also wish to visit the Transfer Center on either campus.

### Program of study leading to: Associate in Science (A.S.) Degree

REQUIRED COURSES		UNITS	In Progress	Completed Grade
†	CHEM 1A General Chemistry	5.5		
†	ENGL 1 Reading and Composition	4		
†	ENGR 3B Engineering Graphics	3		
†	ENGR 17 Electrical Engineering Circuits	3		
†	ENGR 17L Electrical Engineering Circuits Lab	1		
†	ENGR 35 Statics	3		
	ENGR 50 Introduction To Engineering	1		
†	ENGR 54 Computer Methods	3.5		
†	MATH 80 Third Calculus Course	5		
†	PHYS 3A Physics for Sci. & Engr. – Mechanics	5.5		
†	PHYS 3B Physics for Sci. & Engr. – E & M	4.5		
<b>TOTAL UNITS</b>		<b>39</b>		

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

- 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.

<b>Engineering Major</b>	39 units
<b>General Education/A.S. §</b>	19 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 19.5 units** of the required 39 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
- 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>.
- 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".

## Suggested Sequence of Classes

This is not an educational plan, as course offerings, student schedules, and circumstances vary. Students must meet all the prerequisites in order to be eligible for the sequence of courses.

A suggested, full-time sample sequence of courses for the required **60** units to reach an Associate Degree includes:

<u>First Semester</u>	<u>Units</u>	<u>Second Semester</u>	<u>Units</u>
ENGR 50	1	ENGR 3B	3
MATH 60 or 60H	5	MATH 70 or 70H	5
ENGL 1	4	PHYS 3A	5.5
CHEM 1A	5.5	<b>Semester Total</b>	<b>13.5</b>
<b>Semester Total</b>	<b>15.5</b>		
<u>Third Semester</u>		<u>Fourth Semester</u>	
MATH 80	5	ENGR 35	3
PHYS 3B	4.5	ENGR 17	3
ENGR 54	3.5	ENGR 17L	1
<b>Semester Total</b>	<b>13</b>	<b>Semester Total</b>	<b>7</b>

## Career Opportunities

This field of concentration is designed to recognize partial fulfillment of the requirements for transfer with junior standing for students seeking a baccalaureate degree in engineering.

This **Associate Degree** will facilitate transfer for a four-year engineering degree. Students who wish to transfer may need to meet additional requirements.

## Program Mission and Outcomes

The mission of Long Beach City College Engineering program is to foster an environment that both challenges and supports its students. The primary purposes of the educational program offered by the department is to prepare students for transfer to baccalaureate-granting institutions, to nurture an appreciation of the role of engineering in life, and to support business and industry in economic development by providing a highly educated work-force. We will aspire to excellence in teaching, a well-designed curriculum, and a supportive environment for all our students. The department is committed to continuous revision and improvement of the curriculum, making real world connections, and incorporating technology. The department employs an assortment of assessment techniques, provides a variety of teaching styles, and maintains intervention plans for students who might be having difficulty.

Outcomes:

- To serve students for the fulfillment of their own personal goals.
- To serve students to meet career/transfer requirements.

## 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/courseetails/>) for specific prerequisite information.