

# PHYSICAL SCIENCES

## Curriculum Guide for Academic Year 2012-2013

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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 Arts (A.A.) or Associate in Science (A.S.) Degree**

**REQUIRED COURSES:**

Complete **THIRTEEN - FIFTEEN (13 - 15) UNITS** from the following disciplines:

- |   |   |   |  |
|---|---|---|--|
| <b>ASTRONOMY (ASTR)</b><br>All Courses  | † <b>CHEMISTRY</b> —Choose<br>From: CHEM 2 OR CHEM 3<br>OR CHEM 1A (only one<br>may be used)<br><br>Any other CHEM course<br>offered at LBCC. | <b>ENVIRONMENTAL<br/>SCIENCE (ENVR 1)</b> | <b>PHYSICAL GEOGRAPHY</b><br>All Courses |
| <b>GEOLOGY (GEOL)</b><br>Choose From: GEOL 1 OR 1H OR GEOL 2 & 2L<br>Any other GEOL course offered at LBCC. | † <b>PHYSICS (PHYS)</b><br>Choose From: PHYS 2A or 3A but not both<br>PHYS 2B or 3B but not both<br>Any other PHYS course offered at LBCC.    |   |  |

COURSE NO.	COURSE TITLE	UNITS	In Progress	Completed Grade
<b>Subtotal Units</b>		<b>13 - 15</b>		

**IN ADDITION, Complete a Computer Class**

Computer Class—Any class which satisfies the Technology portion of the Information Competency requirement for graduation. See the current General Education Course Pattern Guide for a complete listing of acceptable courses.

COURSE NO.	COURSE TITLE	UNITS	In Progress	Completed Grade
<b>Subtotal Units</b>		<b>1 - 4</b>		

*Associate Degree requirements continue on the following page:*

Associate Degree requirements continued from the previous page:

**IN ADDITION, Complete FIVE – SIX (5 – 6) UNITS from any Mathematics course which has a prerequisite of Intermediate Algebra (MATH 130) or higher**

COURSE NO.	COURSE TITLE	UNITS	In Progress	Completed Grade
Subtotal Units		5 – 6		
TOTAL UNITS		19 - 29		

**NOTE:** Courses are offered each semester excluding the following:  
 CHEM 12A and 12B are offered in alternating semesters starting with 12A in the fall semester.  
 PHYS 2B is offered once each year, usually in the second semester.  
 PHYS 3C is offered every third semester.  
 GEOL 3 is offered every fourth semester.  
 PGEOG 2 is offered once each year.

For graduation with an **A.A. or A.S. Degree with a major in Physical Sciences:**

- 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>A.A. Degree</b>	<b>Physical Sciences Major:</b>	19 - 24 units
	<b>General Education/A.A.</b>	25 units
	<b>Minimum Total Units:</b>	60 units

<b>A.S. Degree</b>	<b>Physical Sciences Major:</b>	22 - 27 units
	<b>General Education/A.S.</b>	20 units
	<b>Electives/Other courses:</b>	60 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 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.
- 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 9 – 13 units** of the required 19 - 27 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 year of initial enrollment to the present, provided continuous enrollment is maintained throughout. See the catalog for definition of "continuous enrollment".

## Career Opportunities

Students are provided an introduction to the lower division course preparation for transfer to a baccalaureate degree in various physical science majors.

This Associate Degree will prepare students for an entry-level position as laboratory technician. Appropriate course selection will also facilitate transfer in a related major.

## Program Mission and Outcomes

The Program Mission Statement for the *Physical Science* program is unavailable at this time. Please contact the department for additional information.

- Differentiate between unsupported opinions and verifiable scientific facts supported by observations, experiments, and scientific theory.
- Demonstrate a basic scientific understanding of a specific field of science by examining and analyzing the nature and content of applicable physical laws.

## 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.