

PHYSICS 37 (5)	Physics for Engineers & Scientists I
PHYSICS 38 (5)	Physics for Engineers & Scientists II
PHYSICS 39 (5)	Physics for Engineers & Scientists III

*May be waived by petition for students who successfully complete high school calculus and achieve a satisfactory score on the math placement exam

Students intending to transfer: some CSU campuses require MATH 270 in addition to the above; and most UC campuses require CHEM 102 and PHYSICS 39 in addition to the above. (See a counselor to determine if these requirements apply.)

Effective Fall 2017

Engineering Technology

Associate in Science Degree in Engineering Technology: Electronics

Major Code: 093410

Two-year graduates in Electronics Engineering Technology will enter a rapidly growing career field tremendously important in modern engineering. They work in research and development, prototype construction, circuit design layout, and quality control. They apply scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. This degree requires greater than 60 units and therefore may take more time to complete than other degrees.

Program Learning Outcomes: Upon successful completion of the program, students will be able to articulate and justify technical problems through oral, written, and graphical communication; troubleshoot a variety of electronic and/or

computer-based components and systems including signal processing, communications, computer networks, and controls; employ mathematics, science, and computing techniques in a systematic, comprehensive manner to support the study and solution of engineering problems; demonstrate industry-standards when interpreting and creating engineering drawings; and describe professional and ethical responsibilities in engineering.

Major	56
Additional LACCD GE Plan Requirements*	12
<small>(Not including 6 double-countable major units and 3 Area E units that may be waived for this degree via graduation petition. Students wishing to transfer are advised to use either the CSU GE or IGETC plan instead.)</small>	
Total	68

MAJOR (60 units)

CHEM 65	Introductory General Chemistry (4)
CHEM 101	General Chemistry I (5)
CO TECH 35	Introduction to Linux + (3)
ELECTRN 4	Fundamentals of Electronics (4)
ELECTRN 5	Fundamentals of Electronics I Lab (1)
ELECTRN 6	Fundamentals of Electronics II (4)

ELECTRN 7	Fundamentals of Electronics II Lab (1)
ELECTRN 16	Selected Elements of Electronics Mathematics (5)
ELECTRN 22	Electronics Circuits II (4)
ELECTRN 54	Computer Logic and Arithmetic (4)
ENG TEK 49	Technical Mathematics II (5)
or CO TECH 60	Computer Mathematics I (5)
ENG TEK 50	Technical Mathematics III (5)
ENG TEK 81	Fabrication Techniques (1)
MIT 201	Fundamentals of Manufacturing and Processes (3)
PHYSICS 6	General Physics I (4)
PHYSICS 7	General Physics II (4)

Associate in Science Degree in Engineering Technology: Mechanical Manufacturing

Major Code: 092400

This program is designed to train designer/drafters and places special emphasis on the preparation necessary to enter the Engineering Technology Program in the School of Engineering at CSULB. Note: some courses may not transfer. (Please see a counselor for additional requirements of the university). Two-year graduates in Engineering Technology will enter a rapidly growing career field tremendously important in modern engineering. They work as assistants to the university graduate engineering technologists. They apply scientific skills in support of engineering activities. This degree requires greater than 60 units and therefore may take more time to complete than other degrees.

Updated program learning outcomes may appear on one or both of the following websites: <http://www.lahc.edu/slo/program.html> and/or https://effectiveness.lahc.edu/cpc/haps/SitePages/2015-18_SLO-SAO_Assessment.aspx. If so, those listed on the latter site supersede all others.

Program Learning Outcomes: Upon successful completion of the program, students will be able to articulate and justify technical problems through oral, written, and graphical communication; troubleshoot a variety of electronic and/or computer-based components and systems including signal processing, communications, computer networks, and controls; employ mathematics, science, and computing techniques in a systematic, comprehensive manner to support the study and solution of engineering problems; demonstrate industry-standards when interpreting and creating engineering drawings; and describe professional and ethical responsibilities in engineering.

Major	42**+-52
Additional LACCD GE Requirements	9
(Not including 6 double-countable major units and 3 Area E units that may be waived for this degree via graduation petition. Students wishing to transfer are advised to use either the CSU GE or IGETC plan instead.)	
Total	54**-62

Major (42+-52 units)**

CHEM 65	Elementary Chemistry II (4) or high school chemistry (approved by petition)
DRAFT 1	General Drafting (3)*
DRAFT 4	Applied Descriptive Geometry (4)
DRAFT 9	Mechanical Drafting (3)
DRAFT 16	Blueprint Reading I (2)
DRAFT 17	Blueprint Reading II (2)
DRAFT 50	Production Drafting (4)

or ENG GEN 111	Engineering Drafting (3)
DRAFT 51	Tooling Drafting (4)
or ENG GEN 112	Elementary Engineering Drafting (3)
DRAFT 54	Simplified Stress Analysis (4)
DRAFT 56	Automated Manufacturing (3)
DRAFT 81	Projects Laboratory (1)
DRAFT 82	CAD Drafting Laboratory (2)
MATH 240	Trigonometry (3)
MATH 260	Precalculus (5)
MATH 265	Calculus with Analytic Geometry I (5)
PHYSICS 6	General Physics I (4)
PHYSICS 7	General Physics II (4)

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Effective Fall 2017

English

Associate in Arts in English for Transfer (AA-T) Degree

Major Code: 150100

The Associate in Arts in English for Transfer (AA-T) Degree is intended for students planning to transfer into a Bachelor of Arts program in English or related areas at a California State University (CSU); guaranteeing admission to the system (but not to a specific campus), and priority consideration for admission to the equivalent CSU program. A student may earn an Associate in Arts in English for Transfer (AA-T) Degree by completing 60 semester units that are eligible for transfer to the CSU, including 18 units in English, Humanities, and/or Journalism, 15-17 elective units, and either the Intersegment General Education Transfer Curriculum (IGETC) or the CSU General Education Breadth (CSU GE) requirements, all with a grade of C or **P** or better and a minimum cumulative grade point average (GPA) of 2. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements. This degree complies with The Student Transfer Achievement Reform Act (Senate Bill 1440).

Program Learning Outcomes: Upon successful completion of the program, students will be able to:

- Compose writing that expresses the writer's viewpoint and which utilizes the fundamentals of rhetoric and editing.
- Demonstrate the fundamentals of technological literacy.
- Communicate effectively for differing audiences and purposes
- Demonstrate critical thinking skills by conducting research, evaluating source material and presenting supportive, reasoned arguments on substantive issues in accordance with an appropriate style guide.

Major (Core and Lists A, B, and C)	18
Additional CSU GE or IGETC Requirements	27-29
(Not including 12 double-countable major units)	
Additional CSU-Transferable Units	13-15
Total	60

Core (6 units)

ENGLISH 101	College Reading and Composition I (3)
ENGLISH 102	Introductions to Literature (3)

List A (choose 6 units)

ENGLISH 203	World Lit I (3)
ENGLISH 204	World Lit II (3)
ENGLISH 205	English Lit. I (3)

Program listings do not include basic skills prerequisites for college-level courses or prerequisites for GE courses. Numbers appearing in parentheses beside each course title represent course units. Courses may not be offered every term. Students are strongly advised to see a counselor prior to enrolling in any program.