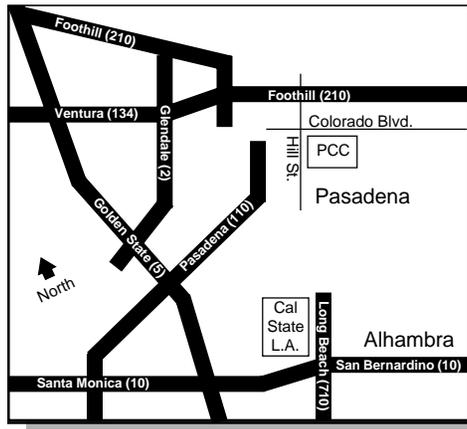


## Directions to Cal State L.A. and Pasadena City College



### Driving Directions to Pasadena City College

Pasadena City College is located in the heart of Pasadena just 12 miles from downtown Los Angeles. To reach PCC from Cal State L.A., take one of two possible routes:

- From Paseo Rancho Castillo turn left on Mariondale. Proceed to Valley Blvd. and turn right (east). Turn left (north) on Atlantic Blvd. (which will become Los Robles Ave.). Proceed to Colorado Blvd. and turn right (east).
- Take the San Bernardino Fwy. (10) west to the Golden State Fwy. (5) north to the Pasadena Fwy. (110) north, which turns into Arroyo Parkway. Proceed to Colorado Blvd. and turn right (east).

### Driving Directions to Cal State L.A.

Cal State L.A. is located five miles east of downtown Los Angeles at the interchange of the San Bernardino (10) and Long Beach (710) Freeways. To reach Cal State L.A. from PCC, take one of two possible routes:

- From Colorado Blvd., turn left (south) on Los Robles Ave. (will become Atlantic Blvd.). Turn right (west) on Valley Blvd. Turn left on Mariondale and follow the signs to Paseo Rancho Castillo, then turn right.
- Take the Pasadena Fwy. (110) south to the Golden State Fwy. (5) south to the San Bernardino Fwy. (10) east. Exit at Eastern Ave. and turn left.

### Important Cal State L.A. Telephone Numbers

School of Engineering and Technology .....	(323) 343-4500
Department of Mechanical Engineering .....	(323) 343-4490
Engineering and Technology Outreach Office .....	(323) 343-5604
M.E.S.A. Engineering Program (MEP) .....	(323) 343-4527
Educational Opportunity Program .....	(323) 343-4367
Office of Admissions and University Outreach .....	(323) 343-3901
Scholarship Office .....	(323) 343-3266
Student Housing Services .....	(323) 343-4800
Center for Student Financial Aid .....	(323) 343-1784

For more information on Cal State L.A.'s Engineering programs, you can contact us via:  
 email: [enr@calstatela.edu](mailto:enr@calstatela.edu) • phone: (323) 343-5604 • fax: (323) 343-4555

Visit our web site at <http://www.calstatela.edu/academic/enr/tmp/et/>

Please include your name, address, phone number and what term you expect to transfer.

Transferring from  
 Pasadena City College  
 to  
 Cal State L.A.  
 in

# Engineering

with Special Option in

# Manufacturing Engineering



*Partners in your future!*



## Launching Your Engineering Study at Pasadena City College

### Introducing Pasadena City College

Since 1924, Pasadena City College (PCC) has been a springboard to success for motivated individuals seeking to further their education and advance their careers. PCC is the third largest single-campus community college district in the nation and today offers 70 vocational and technical programs and 60 academic programs, with class offered during the day, evenings and weekends. PCC specializes in outstanding yet affordable lower-division and preprofessional programs for a highly diverse student population. At PCC 380 full-time faculty and another 400 part-time faculty serve more than 28,000 students. Located on 53 acres just 12 miles from downtown Los Angeles, PCC draws students from throughout Southern California, many of whom come to campus for programs that are unavailable anywhere else.

### The PCC Advantage in Engineering

Engineering is one of the most popular majors at PCC. Of all the choices students have for completing their lower-division engineering coursework, none offers the individual attention and personalized programs that Pasadena City College does. The Division of Engineering and Technology is able to work with students to customize the program to one that best fits the student's unique needs, as well as affording students the opportunity to create and package their own learning situation.

In addition to general education courses, we offer all of the required physics, chemistry and calculus classes, as well as classes in statics, mechanics, dynamics, CAD, engineering circuits, computer programming, and materials of construction. PCC offers transfer programs in civil, mechanical, manufacturing, computer, and electrical engineering, and we are the only college to teach microwaves at the two-year level.



PCC doesn't feel like a big, impersonal institution. We offer small classes and labs, ensuring adequate hands-on experience for all students. In addition, our faculty is accessible and eager to advise students about career paths and the best curriculum to help them attain their educational goals. It's no wonder PCC is known for its mission of providing a rigorous education that empowers students to develop the skills and abilities necessary to make rational decisions in a changing technological society.

### Learning in State-of-the-Art Facilities

Because we are committed to balancing theory with practice, we maintain extensive, up-to-date engineering laboratories. PCC provides state-of-the-art computer programs, designed to continue integrating computer technology across the curriculum. We have been able to stay on top of all the latest developments, enabling us to install state-of-the-art microcomputers, 3-D CAD and simulation software, and electronic test equipment. We have our own surveying equipment, and with Jet Propulsion Laboratory (JPL) in our community, we are in the unique position to access additional equipment when we need it.

### Making the Most of Your Opportunities at PCC

As comprehensive as our courses are, the engineering program at PCC consists of far more than just classes. PCC offers approximately 50 student clubs and organizations covering a wide spectrum of educational and recreational interests, encouraging students to develop a well-rounded breadth of knowledge that is sought by employers.



A workshop for engineering majors provides the opportunity to learn about career options and explore the different programs available within the major. Once you decide to become an engineering major, you will meet with a counselor to set up an educational plan based on the "2+2 articulation agreement" in the following centerfold. This semester-by-semester plan of courses will keep you on track to reaching your goal.

### A Faculty of Distinction

The core of any program is its faculty, and at PCC, we are proud to have superbly qualified instructors in all engineering disciplines. Our entire faculty has extensive industry and consulting experience, as well as impressive skills and portfolios.

Many students find that our faculty are their best source of information about career preparation and coursework to transfer to four-year institutions such as Cal State L.A. If you need more information about classes or your career goals, don't hesitate to get in touch with the faculty members in the Division of Engineering and Technology:

Faculty Member	Office	Phone Number
Division Office	V212	(626) 585-7267
Nabil Abu-Ghazaleh (Dean)	V212	(626) 585-7681
Tony Keehn	V101	(626) 585-7309
Phil Salomon	V205	(626) 585-7317

### Transferring is as Easy as 2+2

PCC is in the top 10 statewide for transfers to four-year institutions. In 1985 we piloted a dedicated Transfer Center enabling us to increase the amount of transfer-related activities and information we offer. Thanks to this state-funded program, PCC has a very strong support base for transfers, which strengthens the ties to Cal State L.A. The two institutions have long had a close relationship and share a commitment to balancing theory and practice. In addition, both are dedicated to serving a diverse, highly motivated student body.

By completing the lower-division coursework detailed in the following centerfold, and earning at least a 2.0 GPA, you can rest assured that your studies at Pasadena City College will dovetail perfectly with the requirements at Cal State L.A.



If you have any questions about transferring into Cal State L.A.'s highly-rated engineering programs, don't hesitate to call them at (323) 343-5604. Cal State L.A.'s faculty and staff are ready to help you meet your educational and professional goals.

# A unique partnership leading to your degree in Engineering with Special Option in Manufacturing Engineering

## Two of Southern California's leading educational institutions have created a 2 + 2 articulation agreement to expedite your studies to become a Manufacturing Engineer

### PASADENA CITY COLLEGE

Division of Engineering and Technology (626) 585-7267

#### GENERAL EDUCATION AT PCC

##### Required General Education Lower Division Courses

- |                                   |                         |
|-----------------------------------|-------------------------|
| <input type="checkbox"/> ENGL 1A  | Reading and Composition |
| <input type="checkbox"/> SPEECH 1 | Fundamentals of Speech  |

*It is recommended that you take **four** of the seven courses listed below. The **three** remaining lower division GE courses along with the three courses required to satisfy the GE Upper Division Theme will be useful in balancing the technical course load at Cal State L.A.*

- |  |   |
|--|---|
| <input type="checkbox"/> U.S. HISTORY*       | HIST 7A, 7B, 25A, 25B, 29A, or 29B                        |
| <input type="checkbox"/> POLSCI 1            | Introduction to American Government                       |
| <input type="checkbox"/> BLOCK C (3 courses) | Humanities  |
| <input type="checkbox"/> BLOCK E (1 course)  | Lifelong Understanding and Self-Development               |
| <input type="checkbox"/> ENGL 1C             | Intermediate Composition – Critical Thinking and Argument |

\* You can meet the Cal State L.A.'s U.S. History requirement by taking any **one** course from HIST 7A, 7B, 25A, 25B, 29A, 29B.

#### COURSES IN MAJOR PROGRAM AT PCC

##### Basic Sciences and Mathematics

- |                                  |   |
|----------------------------------|---|
| <input type="checkbox"/> CHEM 1A | General Chemistry and Chemical Analysis |
| <input type="checkbox"/> MATH 5A | Calculus                                |
| <input type="checkbox"/> MATH 5B | Calculus                                |
| <input type="checkbox"/> MATH 5C | Calculus                                |
| <input type="checkbox"/> MATH 55 | Calculus and Engineering Math           |
| <input type="checkbox"/> PHYS 1A | General Physics                         |
| <input type="checkbox"/> PHYS 1B | General Physics                         |
| <input type="checkbox"/> PHYS 1C | General Physics                         |

##### Lower Division Engineering Courses

- |  |  |
|--|--|
| <input type="checkbox"/> CS 43**               | FORTRAN  |
| <input type="checkbox"/> ENGR 2                | Descriptive Geometry                                 |
| <input type="checkbox"/> ENGR 14               | Materials of Construction                            |
| <input type="checkbox"/> ENGR 15A              | Applied Mechanics – Statics                          |
| <input type="checkbox"/> ENGR 15B              | Applied Mechanics                                    |
| <input type="checkbox"/> ENGR 16               | Engineering Circuits                                 |
| <input type="checkbox"/> ENGR 17               | Dynamics   |
| <input type="checkbox"/> MACH 220A*** or MP 14 | Machine Shop Technology or Metalworking Fundamentals |

\*\* May substitute a course in any high-level programming language (i.e., CIS 14, CIS 36, CS 10, CS 12).

\*\*\* Non-transferable course. Credit will be granted for Cal State L.A. course TECH 160 upon matriculation as a Cal State L.A. Engineering major.

### CAL STATE L. A.

Department of Mechanical Engineering (323) 343-4490

#### GENERAL EDUCATION AT CAL STATE L.A.

##### General Education Lower Division

- |                                |   |
|--------------------------------|---|
| <input type="checkbox"/> _____ | Insert GE holdover course (See PCC GE note) |
| <input type="checkbox"/> _____ | Insert GE holdover course (See PCC GE note) |
| <input type="checkbox"/> _____ | Insert GE holdover course (See PCC GE note) |

##### General Education Upper Division Theme

- |   |           |
|---|-----------|
| <input type="checkbox"/> Upper Division GE Theme **** | 3 courses |
|---|-----------|

\*\*\*\* A biology course must be included as part of GE Upper Division Theme

Note: You must select two **diversity** courses from among the GE courses you take at Cal State L.A.

#### COURSES IN MAJOR PROGRAM AT CAL STATE L.A.

##### Lower Division Engineering Courses

- |  |  |
|--|--|
| <input type="checkbox"/> EE 210 or ME 310              | Electrical Measurements Laboratory or<br>Mechanical Engineering Measurement Laboratory |
| <input type="checkbox"/> EE 211                        | Electrical Circuits Laboratory   |
| <input type="checkbox"/> ENGR 100                      | Introduction to Engineering  |
| <input type="checkbox"/> CE/ME 210 (formerly ENGR 210) | Matrix Algebra for Engineers   |
| <input type="checkbox"/> CE/ME 211 (formerly ENGR 211) | Statistics and Probability for Engineers   |

##### Upper Division Engineering Courses

- |   |   |
|---|---|
| <input type="checkbox"/> CE/ME 312            | Strength of Materials Laboratory I  |
| <input type="checkbox"/> ENGL 306 or TECH 400 | Technical Writing or Written Communication Skills for<br>Industrial Technology    |
| <input type="checkbox"/> ENGR 300             | Economics for Engineers   |
| <input type="checkbox"/> ENGR 301             | Ethics and Professionalism in Engineering   |
| <input type="checkbox"/> ME 323               | Machine Design I  |
| <input type="checkbox"/> ME 327               | Manufacturing Processes   |
| <input type="checkbox"/> ME 328               | Introduction to Metallurgy  |
| <input type="checkbox"/> ME 329               | Metallography Laboratory I  |
| <input type="checkbox"/> ME 410 or EE 360     | Control of Mechanical Systems or Control Systems Theory I                         |
| <input type="checkbox"/> ME 428 or TECH 484   | Automation and Computer Aided Manufacturing or<br>Automated Manufacturing Systems |
| <input type="checkbox"/> ME 481               | Introduction to Robotics  |
| <input type="checkbox"/> ME 491               | Robotics Laboratory   |

##### Technical and Management Electives

- |   |   |
|---|---|
| <input type="checkbox"/> 300 LEVEL TECHNICAL ELECTIVES      | Select 3 courses from CE/ME 303, EE 304, EE 336,<br>ME 306, ME 326A   |
| <input type="checkbox"/> MANAGEMENT ELECTIVES               | Select 3 courses from MGMT 306, MGMT 460,<br>MGMT 463, MGMT 464, MGMT 467, MGMT 496                               |
| <input type="checkbox"/> UPPER DIVISION TECHNICAL ELECTIVES | Select 4-5 courses from EE 336, EE 345, EE 372, EE 445,<br>ME 414, ME 422, TECH 325, TECH 327, TECH 411, TECH 425 |

Note: You are required to take the Writing Proficiency Examination (WPE) prior to completing 135 quarter units.



## **Manufacturing Engineering at Cal State L.A.:** **A Local Focus; A National Reputation**

A sound theoretical foundation, extensive hands-on experience. The resources of a major university, the personal attention of a small school. An outstanding education and modest tuition. A long history of leadership, state-of-the-art facilities, and up-to-date curriculum.

If you're looking for a manufacturing engineering program that offers the best of all possible worlds, you owe it to yourself to check out Cal State L.A. Flexible enough to accommodate working students, so distinguished as to have attracted the attention of *U.S. News and World Report*, industry leaders, academic colleagues and major funding agencies, our nationally recognized programs are the most direct path to a rewarding career in engineering.

### Getting Acquainted With Cal State L.A.

Cal State L.A. is a comprehensive university dedicated primarily to undergraduate education. Serving some 19,000 students, it offers more than 50 undergraduate and graduate degree programs in academic and professional fields. It is an ethnically and culturally diverse university, with a student body that represents 120 different countries.

The university of choice for working students, Cal State L.A. is located close to downtown Los Angeles and the San Gabriel Valley. It specializes in providing diverse, often nontraditional students with the knowledge, experience, and support they need to earn their degrees and advance their careers.

### A Well-Rounded Curriculum

Converting raw materials into consumer products is the focus of manufacturing engineering. Cal State L.A.'s manufacturing engineering program, which we offer as a special option within an interdisciplinary engineering program, prepares students to work in such industries as aerospace, automotive, appliances, electronics, and machine tool manufacturing.

When you transfer into our manufacturing engineering program, you'll pursue a course of study that combines mechanical and electrical engineering with technology and management, balancing theory with hands-on practice. The curriculum includes extensive engineering computer applications. Our program is the best way to prepare you for the activities you pursue after graduation, whether employment or graduate school.



### The Professional Touch

We cultivate close ties to industry, maintaining an industry advisory board for the School and our mechanical engineering department. Job prospects are outstanding for manufacturing engineers, and our industry connections regularly lead to employment for our students after graduation. Such organizations as NASA, Northrop-Grumman, Boeing, Jet Propulsion Laboratory, and the City of Los Angeles Bureau of Engineers regularly attend career days and other recruiting events, sometimes hiring students on the spot.

### Cutting Edge Facilities

Central to our practical orientation are our classrooms and laboratories, which are currently undergoing a \$31 million renovation. By the time you enroll at Cal State L.A., we will have one of the finest facilities of any undergraduate institution in the nation. All instructional spaces will be connected through a fiberoptic backbone and will feature the latest equipment. You'll gain experience in our automated manufacturing lab, taking a product designed on a computer through rapid prototyping and production. You'll use our mills and lathes to make parts. You'll gain experience with casting and machine tools, with robotics and CAD/CAM. These are the same tools and machines that you will encounter in industry - a real advantage when you seek your first job as a manufacturing engineer.



### Personal Attention from Distinguished Faculty

At the heart of our outstanding reputation is our eminent faculty, who work closely with students to ensure their success. All classes are taught by professors, not teaching assistants, and faculty do all grading and advising, remaining unusually accessible to students.

Our small class size underscores our commitment to giving students personal attention. We also cater to working students by trying to offer day and evening sections of each class.

Cal State L.A. also provides research opportunities rare outside of graduate school. Many professors have research programs or industry sponsored projects, and they routinely hire undergraduates to help them with their work.

### Beyond the Classroom

As a manufacturing engineering student at Cal State L.A., you can participate in as many or as few extracurricular activities as you like - we have a wide range to appeal everyone's interests. Among the most meaningful are the student design competitions, for which we have earned a well-deserved national reputation. It was our students that designed the national champion solar-powered vehicle, the Solar Eagle III, as well as our mini baja vehicles that won first place three out of the last four years in the Mini Baja West.

In addition, we have active student chapters of many engineering societies, including the Society of Manufacturing Engineers, the Society of Women Engineers, the National Society of Black Engineers, and the Society for Hispanic Engineering and Science Students, among others. Students may also benefit from Cal State L.A.'s MESA Engineering Program, which offers study and enrichment services.

### Transferring into Manufacturing Engineering at Cal State L.A.

After you've checked off all the courses on the left hand side of the articulation centerfold, transferring into Cal State L.A. is a smooth process. For an application, call (323) 343-5604, or e-mail us at [enr@calstatela.edu](mailto:enr@calstatela.edu).

