

# Bronco Engineering

# Student Handbook



## College of Engineering

Building 9, Room 225

California State Polytechnic University, Pomona

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Fall 2012

*Welcome to the Bronco Engineering Team!*

Congratulations on your academic achievements, and welcome to the College of Engineering at Cal Poly Pomona. The College of Engineering offers the opportunity to pursue an engineering education with a strong theoretical background and significant hands-on laboratory experience. The College of Engineering has a 50-year reputation for producing engineers and engineering technologists (22,000 so far) who are prepared immediately upon graduation to enter the global workforce, to offer significant contributions to industry, and to pursue graduate studies. The \$52 million Engineering Laboratory Building is an impressive two story structure that is part of our 250,000 square feet of laboratory and instructional space. This state-of-the-art learning environment is an appropriate setting for one of the the largest engineering colleges in California.

This Handbook is designed as a guide to help undergraduates understand the opportunities and resources available while pursuing an engineering education here at Cal Poly Pomona. There are numerous student support services and academic programs from which to choose, including 11 accredited undergraduate majors, four minors, and five masters degree programs. Class sizes are relatively small, and courses are taught by faculty with experience in academia, industry, and the public sector. The College of Engineering is home to more than 40 student clubs representing the diverse interests of our students and providing opportunities for exciting activities.

We encourage you to take advantage of all that Cal Poly Pomona Bronco Engineering has to offer. Best wishes for success in your academic endeavors.

Sincerely,

Mahyar Amouzegar, Ph.D.  
Dean, College of Engineering

Cordelia Ontiveros, Ph.D., P.E.  
Associate Dean for Academic Programs  
and Student Services  
College of Engineering



Dean Dr. Mahyar Amouzegar  
and Associate Dean Dr. Cordelia Ontiveros

# Contents - Knowledge for College

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<b>How do I Know if Engineering is Right for Me? .....</b>	<b>5</b>
What are you passionate about?	
Knowledge with Know-How	
<b>What Should I Know about the College of Engineering?.....</b>	<b>6</b>
College Departments and Academic Degrees	
College Minors and Programs	
<b>What Should I Know about each Engineering Department?.....</b>	<b>8</b>
<b>Bronco Engineers have many Opportunities .....</b>	<b>10</b>
Clubs and Organizations	
Student Events	
Student Competitions	
<b>Winning Strategies for Engineering Students .....</b>	<b>14</b>
Helpful First Year Tips	
Do's and Don'ts	
Get to Know the Players on Your Team	
<b>Helpful Hints for Achieving Your Goal.....</b>	<b>17</b>
Stay on Course	
College of Engineering Drop Policy	
It's a Numbers Game: The Grading System at Cal Poly Pomona	
Monitor Your Score (GPA): Calculating Your Grade Point Balance	
Understand the Rules: Play the Game to Win!	



*Engineering applies  
science and technology to  
**solve problems** that  
extend human potential  
and **improve**  
the quality of life.*

# How do I Know if Engineering is Right for Me?

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## What are you Passionate About?

If you are the kind of person who likes to figure out what makes things tick, who likes to help people or improve the way they live, who likes to solve problems and transform good ideas into usable products, then engineering may be the perfect career for you.

Finding your passion is an important part of choosing a major and a career path. The College of Engineering has tough standards and policies, so it is imperative that you are studying a field for which you are passionate.

Earning an engineering degree is serious business because the things you will learn at the University, will be tools you apply on the job in the future. Engineers assume important responsibility for the things they build.

If you find that your major is not a good fit, then discuss other options with your academic advisor and visit <http://www.csupomona.edu/advising> for on-line resources to help you select a major. You should know if engineering is right for you based on your level of academic progress and success by the end of the first year.

## Knowledge with Know-How

In order to prepare you for a career in engineering upon graduation, the College of Engineering has a rigorous curriculum. You'll learn in the classroom, in the labs on the same equipment that working engineers use in industry, and on group design projects.

Put in the necessary effort early in your studies, and in return you will get a better starting salary in your chosen field. Industry professionals repeatedly tell us that our approach to engineering education makes our graduates extremely valuable in the job market. Our new graduates become productive employees immediately.

## Bronco Engineers are in High Demand

Our graduates work in the majority of high-tech firms in California. Our recent career fair attracted an impressive variety of employers looking to hire. Recent data shows that our graduates earn an average starting salary of \$56,000 per year.

# What Should I Know about the College of Engineering?

The College of Engineering (CoE) provides education opportunities to approximately 5,000 undergraduate and graduate students in seven engineering departments, offering eleven undergraduate programs leading to Bachelor of Science degrees and five graduate programs leading to Masters of Science degrees. The undergraduate curricula are accredited by the Engineering Accreditation Commission or the Technology Accreditation Commission of ABET, Inc. (Accreditation Board for Engineering and Technology). Cal Poly Pomona is a quarter campus offering four sessions each year.

## College Departments and Academic Degrees

Aerospace Engineering (ARO)  
B.S. Aerospace Engineering  
M.S. in Engineering with emphasis in Aerospace

Chemical & Materials Engineering (CME)  
B.S. Chemical Engineering

Civil Engineering (CE)  
B.S. Civil Engineering  
M.S. Civil Engineering

Electrical & Computer Engineering (ECE)  
B.S. Electrical Engineering  
B.S. Computer Engineering  
M.S. Electrical Engineering

Engineering Technology (ET)  
B.S. Engineering Technology  
B.S. Electronics & Computer Engineering Technology  
B.S. Construction Engineering Technology

Industrial & Manufacturing Engineering (IME)  
B.S. Industrial Engineering  
B.S. Manufacturing Engineering  
M.S. Engineering Management

Mechanical Engineering (ME)  
B.S. Mechanical Engineering  
M.S. Mechanical Engineering

## College Minors

### Energy Engineering Minor (ME)

This minor helps to meet the need for technically qualified and informed graduates in the best utilization and development of new sources of energy for society and concerns for global warming. The graduate will be able to emphasize this important technical area and be better able to accept meaningful technical positions in energy industries.

### Illumination Engineering Minor (ECE)

This minor helps to meet the need for advanced lighting expertise in the state of California, both for professionals in the field and engineers who want to provide advanced expertise.

### Materials Engineering Minor (CME)

This minor studies the interrelationships among the properties, processing, structure, and performance of materials. The graduate will be very well prepared to respond to the challenge of working with new ideas and materials and thus have a career advantage.

## **Ocean Engineering Minor (ECE)**

This minor is a cross-disciplinary field in collaboration with the College of Science which deals with all aspects of the marine environment. Subjects emphasized include marine structures, vehicles, chemistry, and ecology, and coastal and marine engineering.

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*Cal Poly Pomona ranks  
#1 in California for  
number of Hispanic  
engineers graduated.*

*- Engineering Workforce Commission,  
AAES 2012 Edition.*

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## **Student Support Programs**

### **Maximizing Engineering Potential Program (MEP)**

Historically underrepresented students and all others who want an extra hand can participate in MEP, our Maximizing Engineering Potential Program. The largest in the state, our program provides over 400 students a year with guidance, tutoring, enrichment and a ready-made learning community.

### **Cal Poly Pomona Women in Engineering (CPP WE)**

Cal Poly Pomona Women in Engineering (CPP WE) is dedicated to engaging all women within the college of engineering. CPP WE strives to recruit female engineers by bringing awareness and exposure of engineering programs to women while retaining and graduating current students by providing a welcoming environment for them. CPP WE promotes a close community for female engineering students through proactive retention activities and seeks to create an environment in which women can thrive in the classroom and beyond in their careers.

## **Academic Enrichment Programs**

### **Kellogg Honors College**

High-achieving students are invited to participate in the Honors College program to help them prepare for future careers and to provide an outstanding academic experience at Cal Poly Pomona in a close community of students and faculty. A high percentage of Honors College students are from the College of Engineering. Participants enjoy small class size in honors classes, priority registration, and more. Access Honors College information on-line at: [www.csupomona.edu/honorscollege](http://www.csupomona.edu/honorscollege)

### **Four-Year Graduation Pledge Program**

The average time-to-graduation for an entering freshmen in the College of Engineering is about 5 years. For those students that are eligible, the Four-Year Graduation Pledge Program is designed to guarantee graduation within four years for freshmen entering the University. The pledge program involves a promise by students to balance school, work and personal responsibilities so that their commitment to education is honored. The University, in turn, provides an effective and coordinated advising program and facilitates registration in appropriate course work. Our pledge program is based on the philosophy that if both the University and the student uphold their commitment, graduation in four years should be guaranteed. Learn about program eligibility and the Four-Year Pledge on-line at: [www.csupomona.edu/~academic/programs/fouryearweb](http://www.csupomona.edu/~academic/programs/fouryearweb)

# What Should I Know about each Engineering Department?

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## **Aerospace Engineering (ARO)**

Building 17 Room 2132, 909.869.2470

[www.csupomona.edu/aro](http://www.csupomona.edu/aro)

Our Aerospace Engineering (ARO) Department offers a Bachelor of Science in Aerospace Engineering (BSAE) and a Master of Science in Engineering with Emphasis in Aerospace Engineering (MSE\_AE). The Department trains students in aerodynamics, structures, propulsion, flight mechanics and controls, astronautics, and systems engineering. The Department has nine laboratories, including a Subsonic Wind Tunnel, a Supersonic Wind Tunnel, and an Unmanned Aerial Vehicle (UAV) Laboratory. The graduates will be trained to design and develop aircraft, spacecraft and rockets, as well as high-speed land vehicles and ocean vessels.

## **Chemical & Materials Engineering (CME)**

Building 17 Room 2124, 909.869.2626

[www.csupomona.edu/cme](http://www.csupomona.edu/cme)

Our Chemical & Materials Engineering (CME) Department prepares engineers for a career in the development and application of processes that involve chemical and physical materials transformations. The program offers a Bachelor of Science in Chemical Engineering (BSChE), which includes work related to the design, construction and operation of plants for fuels, plastics, fibers, foods and pharmaceuticals. Because of their strong background in chemistry and materials processing, many chemical engineers work for industry as environmental engineers. A Materials Engineering Minor emphasizes ceramics, polymers, metals and alloys.

## **Civil Engineering (CE)**

Building 17 Room 2651, 909.869.2488

[www.csupomona.edu/ce](http://www.csupomona.edu/ce)

Civil engineers design, build, operate, and maintain structures and infrastructure that form our modern society. These facilities include buildings, bridges, highways, water supply systems, environmental protection systems, ports, railroads, dams, airports, and many others. Our Bachelor of Science in Civil Engineering (BSCE) program includes three options: The general option has the greatest breadth, the environmental option emphasizes civil engineering works to clean and protect the environment, and the geospatial option emphasizes surveying, geographical information systems, and global positioning systems. The Master of Science in Civil Engineering (MSCE) program has three emphasis areas: geotechnical engineering, structural engineering, and transportation engineering. All students complete numerous design projects that help them learn how to put engineering principles into practice.

## **Electrical & Computer Engineering (ECE)**

Building 9 Room 407, 909.869.2511

[www.csupomona.edu/ece](http://www.csupomona.edu/ece)

Our Electrical & Computer Engineering (ECE) Department offers a Bachelor of Science in Electrical Engineering (BSEE), a Bachelor of Science in Computer Engineering (BSCpE) and a Master of Science in Electrical Engineering (MSEE) degree. The BSEE trains undergraduate students in the fundamental principles of electrical engineering including communications, controls, instrumentation, electronics, illumination and power. The BSCpE trains undergraduate students in the fundamental electrical engineering principles, design of computer hardware and software, and embedded systems. The MSEE currently offers graduate students options in communication systems, computer systems, and control and robotic systems.

## **Engineering Technology (ET)**

Building 9 Room 244, 909.869.2492

[www.csupomona.edu/et](http://www.csupomona.edu/et)

Engineering Technology graduates are applications-oriented members of the engineering team. They have a detailed background in a particular technical specialization and usually work directly in engineering project execution and management. The areas offered at Cal Poly Pomona include Construction Engineering Technology (CET), Electronics and Computer Engineering Technology (ECET), and General Engineering Technology (ET), with separate Bachelor's degrees available in each of these disciplines.

## **Industrial & Manufacturing Engineering (IME)**

Building 17 Room 2643, 909.869.2555

[www.csupomona.edu/ime](http://www.csupomona.edu/ime)

Industrial Engineering (IE) prepares students to be problem solvers who can tackle the complex interactions associated with productivity of workers, capital and facilities. They design and implement processes for industry and service organizations. Manufacturing Engineering (MFE) prepares students as experts in the design and analysis of processes for manufacturing products using complex computer-controlled automation systems.

## **Mechanical Engineering (ME)**

Building 17 Room 2353, 909.869.2575

[www.csupomona.edu/me](http://www.csupomona.edu/me)

Mechanical Engineering (ME) is the most general branch of engineering. The mechanical engineering curriculum permits students to explore different fields, specializing in one or more of them as they find their true interests. Mechanical engineers deal with thermal fluids sciences, mechanics, machine design, robotics, instrumentation and control systems, energy systems and more. The Department offers a Bachelor of Science in Mechanical Engineering (BSME) and a Master of Science in Mechanical Engineering (MSME) degree.

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*Cal Poly Pomona is  
14th overall in  
the nation for top  
undergraduate  
engineering  
programs*

*- U.S. News & World Report,  
2012 College Rankings:  
Universities-Master's Category.*

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# Bronco Engineers have many Opportunities

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## Clubs and Organizations

Membership in any of the student organizations affiliated with Cal Poly Pomona is encouraged as a vital and active part of the preparation of an engineering student for entry into the profession. Active participation in such groups is as necessary for success as are academic accomplishments. Because engineering in practice is a team effort, strong people skills lead to significantly more frequent opportunities for career advancement. Involvement in student organizations provides the exposure to team situations needed to hone these skills. It helps develop the confidence that will be needed in dealing with others and with unexpected difficulties throughout the student's career. Involvement gives first-hand exposure to the demands of team leadership and strengthens the time and resource management skills necessary for success.

Departments in the College of Engineering have student chapters of both national professional and honor societies appropriate to their disciplines. In addition, student chapters of inter-disciplinary organizations, peer-oriented groups and interest-centered clubs seek the active involvement of both engineering and non-engineering students alike.

The Office of Student Life in the Division of Student Affairs is responsible for chartering student organizations each year. The student government activities on campus are conducted by Associated Students, Incorporated.



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*You can learn more about any  
of the Engineering Clubs  
at the Annual Welcome Fair  
in October.*

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*Build your resume and  
increase your chances  
of getting an internship  
by serving as an officer  
for Engineering Council  
or one of the  
other organizations. Do  
very well and you can be  
a candidate for one of  
the Honoraries.*

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#### **College Wide**

Amateur Radio Club  
Engineering Council  
Engineers Without Borders  
National Society of Black Engineers  
SAE Baja Team  
SAE Formula Racing Team  
Society of Hispanics in Science & Engineering  
Society of Women Engineers  
Tau Beta Pi - National Honorary

#### **Aerospace Engineering**

Sigma Gamma Tau - Honorary  
American Institute of Aeronautics & Astronautics  
Bronco Society for the Research of Development  
of Unmanned Vehicles

#### **Chemical & Materials Engineering**

Omega Chi Epsilon - Honorary  
American Institute of Chemical Engineers  
International Society of Pharmaceutical  
Engineers  
Material Advantage  
National Association of Corrosion Engineers  
Society for the Advancement of Material and  
Process Engineering

#### **Civil Engineering**

Chi Epsilon - Honorary  
American Society of Civil Engineers  
California Geotechnical Engineers Association

California Water Environment Association  
Institute of Transportation Engineers  
Structural Engineers Association  
California Geotechnical Engineers Association

#### **Electrical & Computer Engineering**

Eta Kappa Nu - Honorary  
Institute of Electrical & Electronics Engineers  
Instrumentation Systems & Automation Society  
Java Club  
Power Engineering Society IEEE

#### **Engineering Technology**

Construction Engineering Management Association  
So. Cal. Engineering Technologists Association  
Circuits and Systems  
Mechanical Contractors Association of America

#### **Industrial & Manufacturing Engineering**

Alpha Pi Mu - Honorary  
American Institute of Industrial Engineers  
Associated Manufacturing Societies

#### **Mechanical Engineering**

Alternative Vehicle Club  
American Society of Heating, Refrigeration and  
Air Conditioning Engineers  
American Society of Mechanical Engineers  
Robotics Club of Cal Poly Pomona  
SAE Formula Hybrid  
Society of Automotive Engineers (SAE)

Find out more about clubs and organizations on-line at:  
[www.csupomona.edu/~egr\\_council/Website/Home.html](http://www.csupomona.edu/~egr_council/Website/Home.html)

# **Student Events**

## **BroncoFusion, September**

A day-long event to welcome new students to the campus. Several thousand incoming students will have a chance to connect with faculty, staff and other students, get a head start on finding their class locations, learn about key academic support services, buy books, and explore ways to get involved. The day's events also include a welcome mixer, interactive workshops, club and support services fair, college connection activities and open houses. BroncoFusion culminates with a free evening concert on the University Quad. More information about BroncoFusion is on-line at: [www.csupomona.edu/broncofusion](http://www.csupomona.edu/broncofusion)

## **Hi Tech Career Fair, October**

A career and job fair to help students meet and network with engineering employers with available positions including internships and co-op experiences.

## **Engineering Club Welcome Fair, October**

A chance for all engineering students to explore the many opportunities available to them. Students can meet current club members, get information, and get involved with any of more than 40 engineering clubs and other unique programs.

## **National Engineers Week, February**

A week of events to increase public awareness about the engineering profession and how engineering affects our everyday lives. In observance of Engineers Week, the College and Engineering Council host guest speakers, student competitions, and more.

## **Club and Council Elections, April**

Run for office and get more out of your college experience. Holding office is a good way to develop relationships with other students and help prepare you for leadership roles in the future.

## **Engineering Club Leadership Retreat, May**

Officers from each club attend a one day event to learn important leadership skills such as event planning, business etiquette, and more, as well as planning club activities for the upcoming academic year.

## **Engineering Project Symposium, May or June**

The Engineering Project Symposium provides an opportunity for students across the college to present their projects for review by faculty, industry representatives, other students, and guests. This is a significant learning experience stressing teamwork, organization, and communication — important elements in an engineering career. Examples of past projects include:

- Wireless GPS Data Retrieval System
- Development of Software for Real Time Mapping of Earthquake Shockwaves
- Energy Self-Sufficient Home Design
- Design Carrier Based Support Aircraft

## Student Competitions

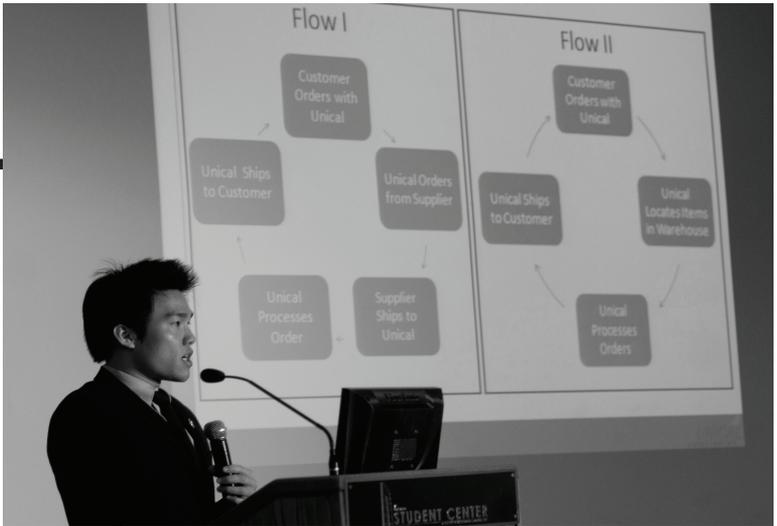
There are many opportunities for students to be involved in engineering competitions, by making good progress in their studies. These club-sponsored competitions provide hands-on experience in engineering design and production, teamwork, and communication. Some examples include:

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### *An Industrial Engineering Student*

*took 1st Place an IME Technical Paper Competition in 2012.*

Concrete Canoe Team  
SAE Baja Team  
Formula SAE Racing  
Solar Boat  
Unmanned Aerial Vehicle  
IME Technical Paper  
Rose Float



*Engineers apply the principles of science and mathematics to develop economical solutions to technical problems. **Their work is the link between perceived social needs and commercial applications.***

*-U.S. Department of Labor*

# Winning Strategies for Engineering Students

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## Helpful First Year Tips

1. Communicate frequently with faculty, staff and other students
2. Read your campus email frequently and delete outdated emails to avoid a full mailbox (if your mailbox is full you will miss important messages)
3. Set reasonable short-term and long-term goals and expectations for yourself
4. Start early to develop a rapport with your professors well before the first test
5. Visit both the Career Center and your academic advisor
6. Log-in to BroncoDirect regularly for class schedule information and changes
7. Verify your class adds and drops the next day and before the third week of classes
8. Participate in student clubs and college events
9. Explore the campus to see what resources are available to help you in your studies
10. Consistent study habits are important: Study – Focus – Study!
11. Make sure you have completed the prerequisites for courses you intend to take later
12. Verify your class schedule within the first two weeks of the start of classes
13. See your advisor and refer to your curriculum sheet to make sure you take the right courses in the right sequence
14. Prepare and maintain an advising notebook to discuss with your advisor
15. Check your Degree Progress Report on BroncoDirect
16. Be prepared and on time when you meet with your advisor or others
17. Begin math courses immediately and continue to take math every quarter until all math requirements are met

## Do's and Don'ts

### Do These Things

- Attend every class meeting of every course
- Complete all assignments
- Take rest breaks between studying/classes
- Participate in extracurricular activities
- Check BroncoDirect to verify class schedule (especially at the start of each term)
- Join/Form a study group
- Visit the faculty during office hours before you have a problem
- Seek help when needed (tutoring, medical, personal, etc)
- See your advisor at least once per quarter
- Meet all deadlines
- Pay all fees on time
- Be on time for classes and appointments
- Check for registration holds, and the reason
- Keep records of all transactions, forms, and documents in a notebook
- Check BroncoDirect student page or General Catalog for rules, dates and regulations

## **Don't Let These Things Happen**

- Fall behind in course work/studying/assignments
- Play computer/video games to excess
- Party excessively
- Spend too much time socializing
- Lie/cheat/steal/plagiarize or copy solutions without permission
- Get distracted from your academic goals
- Procrastinate
- Ignore good advice
- Overextend your credit using plastic money
- Take courses you are not prepared for
- Let your GPA fall below 2.2 (this is a signal that you are in academic trouble)
- Work too many hours

## **Get to Know the Players on Your Team**

### **Talk to Your Coach - Academic Advisors**

All Freshmen students are assigned to the Engineering Undergraduate Advisor and the Student Support Services Coordinator. These advisors will provide you information regarding curriculum, major, and refer you to important resources. After your Freshmen year, you will be assigned a Faculty Academic Advisor through your Academic Department. You are encouraged to find out who your new Advisor will be after your Freshmen year. When meeting with an Academic Advisor, faculty or staff, you should come prepared with an advising notebook or binder. The notebook or binder should contain a flowchart for your correct curriculum year showing the classes you have completed, any approved copies of petitions, and copies of transcripts from other colleges or universities. You should also come prepared to discuss the courses you are currently enrolled in and your plan for taking future courses.

### **Advising Resources**

Cal Poly Pomona has a comprehensive online advising guide that provides information and guidance to students as they move through the different stages of their college academic experience. You can access the campus-wide information at: <http://academic.csupomona.edu/advising>.

### **Counseling & Psychological Services (CAPS) - Bldg 66, Bookstore-116**

Counseling & Psychological Services offers free confidential counseling to Cal Poly Pomona students. University life often involves personal changes and new experiences, which can affect the student's emotional well-being, stress level, family and interpersonal relations. The professional counselors at CAPS are aware of these issues and offer a variety of options for students. In addition to traditional one-on-one counseling sessions, students may participate in couple, family and group therapy. Crisis intervention, outreach services and training programs are also offered.

### **Career Center, Bldg 97 - Under Carl's Junior**

The Career Center assists students with career planning, major choice, student employment and job search activities upon graduation. A wide variety of written support materials are

available for students and alumni. This is one place to go if you are trying to define what major best suits you.

### **Cultural Centers**

Cal Poly Pomona has five centers that represent the major cultural groups on campus: The African American Student Center (AASC), The Asian and Pacific Islander Student Center (APISC), The Cesar E. Chavez Center for Higher Education, The Native American Student Center (NASC) and the Pride Center (Gay, Lesbian, Bisexual, Transgender, Intersex, Questioning & Ally Resource Center). Each center implements a variety of programs, which enhance cross-cultural communication and experiences for all Cal Poly Pomona students and provides a network of support services which address the needs of traditionally underrepresented students.

### **Disability Resource Center (DRC) - Bldg 9, Room 103, by the elevators**

DRC provides support services to students who have documented disabilities. DRC assists students with physical or functional limitations, including visual, hearing, mobility, motor and speech impairments. Students with serious medical conditions are also served, as well as those with learning or emotional disabilities. DRC offers a comprehensive and well-coordinated system of educational support services. Some of the offered services include reading, note takers, test proctoring, interpreter and real-time captioner services for the hearing impaired, priority registration, use of specialized equipment, disability-related counseling and peer tutoring.

### **Learning Resource Center (LRC) - University Library, Room 2921**

The Learning Resource Center provides a university-wide student service devoted to developing students' academic achievement through a variety of methods. Dedicated personnel provide students with individualized instruction. Programs at the Center emphasize developmental and critical reading (including speed reading), study skills, writing preparation, and basic math preparation. Tutoring in most areas is available by arrangement, and workshops in math and GWT preparation are provided each quarter. Test proctoring is also available.

### **Office of Diversity and Compliance**

The Office is committed to promoting a working and learning environment free of discrimination on the basis of race, color, national origin, religion, gender, age, disability, sexual orientation or covered veterans' status. We work strategically with all university divisions, and provide support to resolve specific issues, so that students, staff, faculty, and administrators have an avenue for addressing their concerns.

### **Ombuds Office**

The Ombuds Office offers confidential, neutral, independent, and informal assistance in resolving your issues, problems, or concerns. We serve all members of the Cal Poly Pomona campus including students, faculty, staff, and administrators. Communication with the Ombuds Office does not constitute notice to the University.

# Helpful Hints for Achieving Your Goal

## Stay on Course

Problem	Solution
If you do not attend the first class of the quarter you may lose the right to remain on the class roll. The instructor may remove you from the roster, but you will still be enrolled and will receive a "WU" = "F" at the end of the term.	You may or may not be dropped if you do not attend the first class meeting. It is your responsibility to drop any class you do not want, by logging into BroncoDirect. If you will miss the first class, but want to keep your seat, you must contact the instructor in advance and obtain his/her approval.
A course repeated with a better grade does not automatically cancel the previously assigned course grade.	A maximum of 16 units may be used for "grade forgiveness" by petition. After that limit has been reached all grades will be used for GPA calculations.
Credit not received for courses taken at another institution.	Contact your academic advisor at the earliest possible opportunity.
Hold on Registration	Check your BroncoDirect to find out where the hold originated. Then contact someone from that office to determine what steps you need to take to have the hold removed.
Probation - Your GPA has fallen below 2.0 in one or more of the following areas: <ol style="list-style-type: none"> <li>1) overall college work,</li> <li>2) overall course work taken at CPP, or</li> <li>3) your major core classes</li> </ol>	Select classes that will raise your GPA and still count toward your degree. Earn grades of C+ or better to improve your GPA. Contact your academic advisor at the earliest possible opportunity.
Subject to Disqualification - Your Grade Point Balance has dropped below acceptable minimum level. (see page 19 for calculating your Grade Point Balance) (see page 20 for information about Academic Probation & Disqualification)	Check your Cal Poly Pomona email account regularly. Academic Notices are sent only to your CPP email account. After receiving an email notice of Subject to Disqualification, you must follow instructions in the email, and then make an appointment with the Engineering Undergraduate Advisor in the College of Engineering Dean's Office. Earn grades of C+ or better to improve your GPA.
Disqualification - Your Grade Point Balance continues to be below acceptable minimum level.	After receiving an email notice of Disqualification, you must follow instructions in the email, and you are no longer considered an active student.
Second Disqualification - Your Grade Point Balance continues to be below acceptable minimum level.	No longer eligible to enroll at the University.

## **Think About Balance in your Study/Work Load**

To successfully complete the coursework necessary to graduate from a university, a good student will be spending 2 to 3 hours outside of the classroom for every hour spent in class. This time will be spent studying, completing homework assignments, writing term papers and laboratory reports, etc.

A student taking a 15-unit load should be spending 30 to 40 hours outside of class for a grand total of 45 to 60 hours/week devoted to academics. This does not include time spent driving to/from school, eating meals, etc. Taking the larger figure (60 hours), this means working 10 hours per day, six days per week on school related endeavors. There is little time left for other activities. Therefore, a student that needs to work should reduce their course load accordingly.

## **College of Engineering Drop Policy**

When students, as soon-to-be professionals, enroll in any class, the faculty of the College of Engineering considers that to be a personal commitment on the student's part to complete that class, especially if it is not dropped prior to the end of the university drop period (15th day of instruction). Because we are anxious that each student accepts responsibility for his/her own actions (and inactions!), we have implemented the following drop policy:

Students enrolled in any engineering or technology program wishing to drop any course after the end of the University drop period may do so only for sufficiently serious and compelling reasons by petition.

“Serious” means “being in earnest, not deceiving”; “compelling” means “forcing by physical necessity.” Even though you may consider your reasons as serious and compelling, the Dean's Office may not. A truly serious and compelling reason usually results in temporary withdrawal from Cal Poly Pomona. It is the student's responsibility to verify his/her class schedule at <https://broncodirect.csupomona.edu/>

## **What are the Implications of Dropping Classes?**

Dropping classes puts you behind in progress towards your degree. It also means you occupied a spot in a class that could have been used by somebody else. At the same time, dropping a class during the add/drop period is best if you feel you will not successfully complete the course. Please determine this early on otherwise you will not be able to drop the class.

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*We are what we  
repeatedly do.  
Excellence is not  
an act, but a  
habit.*

*-Aristotle*



# It's a Numbers Game: The Grading System at Cal Poly Pomona

## Course Grades

Grade	Points
A	= 4.0
A-	= 3.7
B+	= 3.3
B	= 3.0
B-	= 2.7
C+	= 2.3
C	= 2.0
C-	= 1.7
D+	= 1.3
D	= 1.0
D-	= 0.7
F	= 0.0

## Special Situation Grades

Grade	Points	Explanation
I	= 0.0	Approved incomplete not counted in GPA, you have one year to change to a letter grade. After one year changes to IC
IC	= 0.0	Counted in GPA as a failing grade
RP	= 0.0	Report in Progress (grades delayed), not counted in GPA
W	= 0.0	Authorized withdrawal, not counted in GPA
WU	= 0.0	Unauthorized withdrawal, counted in GPA as a failing grade
AU	= 0.0	Audit grade, with approval student audited course
RD	= 0.0	Report delayed, grade was not received in Records by deadline, not counted in GPA, will interfere with International status and financial aid

## Monitor Your Score (GPA): Calculating Your Grade Point Balance

### Example using grades from three classes:

Course	Grade	Grade Points	Units	Grade Points X Units
MATH 105	D	1.0	4	4.0
ENG 104	C	2.0	4	8.0
MUS 100	C-	1.7	4	6.8
			<u>12 Total Units</u>	<u>18.8 Total Grade Points</u>

GPA deficit formula:  $\text{Grade Points} - 2(\text{GPA Total Units}) = \text{Deficit}$

You can also calculate your GPA deficit using the GPA calculator located here:

<http://www.csupomona.edu/~ehelp/gpacalc.html>

Negative Grade Point Balance is referred to as Grade Point Deficit and means you are in academic trouble. A Grade Point Balance of 0.0 means you broke even, no progress toward an improved GPA.

## **Below 2.2 GPA Holds and Advising**

Cal Poly Pomona places a computer-generated hold on all students who have a Cal Poly Pomona GPA below 2.2. This hold is placed on student records each quarter until the Cal Poly Pomona GPA rises above 2.2. Students with GPA Holds must fill out an Academic Advising Worksheet before meeting with their advisors. Worksheets are available on-line at: [http://dsa.csupomona.edu/registrar/forms\\_services.asp](http://dsa.csupomona.edu/registrar/forms_services.asp)

## **Academic Probation & Disqualification**

As an undergraduate student, you are required to maintain a grade point average of at least 2.0 to remain in good academic standing. You must maintain this minimum 2.0 GPA in three categories: 1) overall college work, 2) overall course work taken at Cal Poly Pomona, and 3) your major core classes. This requires that you have a number of grade points that is at least twice the number of your GPA Hours. (A “C” being worth two grade points.) If the number of grade points falls below that number, then you have a “grade point deficit.”

If your GPA falls below 2.0 at the end of any quarter, you will be placed on ACADEMIC PROBATION. This means you are in significant academic trouble.

You are automatically academically DISQUALIFIED (meaning you are no longer an active student) if your grade point deficit falls into one of the categories outlined below:

<b>Class Level</b>	<b>Total Quarter Units Completed</b>	<b>Grade Point Deficit</b>
Freshman/Soph	0-89	-22.5 or more
Junior	90-134 units	-13.5 or more
Senior	135 or more	-9.0 or more

In the College of Engineering, you may appeal your first disqualification. Students whose appeals are denied must raise their Cal Poly Pomona GPA by taking courses through Open University. After second disqualification there are very few options.

Courses taken at other institutions will not raise your Cal Poly Pomona GPA. Students not making adequate progress toward the completion of their degrees may be administratively DISQUALIFIED. Additional information on probation and disqualification is available in the university catalog under Academic Standing.

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*Check your e-mail regularly. Academic Notices and other communications are sent ONLY to your CPP e-mail account.*

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# **Understand the Rules: Play the Game to Win!**

## **16 units of Forgiveness**

Each student is allowed 16 units of forgiveness at Cal Poly Pomona. C-, D+, D, D-, F, or WU may be replaced with a higher grade. The original grade remains on your transcript, but is not counted in your GPA. Course Repetition Forms are available in the Registrar's Office, online Registrar's Home Page, your department office, or the Dean's Office, and must be filed before the original grade will be removed from your GPA calculation.

## **Academic Calendar**

The Academic Calendar provides information on academic deadlines including last day to add, last day to drop without record, last day to drop without a petition, last day to receive a refund, when to file for graduation, etc. Log in to BroncoDirect and use the link from your homepage to view the Academic Calendar.

## **Academic Integrity**

Academic dishonesty is a serious offense that can diminish the quality of scholarship, the academic environment, the academic reputation, and the quality of a Cal Poly Pomona degree. All forms of academic dishonesty at Cal Poly Pomona are a violation of university policy and will be considered a serious offense. Academic dishonesty includes but is not limited to:

- Plagiarism
- Cheating during exams
- Use of unauthorized study aids
- Falsifying any University document

The Office of Judicial Affairs reviews cases referred to the administration and appropriate action is taken. A student's first instance of academic dishonesty may result in a probation period with the student's name placed temporarily on file for academic dishonesty and the student will be informed of this. The second report may result in the student being suspended from the University for the quarter and the following quarter, with the student's name placed permanently on file for academic dishonesty. The third offense may result in the end of a student's career at Cal Poly Pomona.

## **Address Change**

It is the student's responsibility to notify the University of changes in address and telephone number (you may use BroncoDirect). Failure to keep information current will prevent the university, college or department from contacting you with important information.

## **Application for Graduation**

An application to graduate must be filed by the deadline date of the quarter in which you plan to graduate. This date is published in the academic calendar, schedule of classes, university catalog and displayed on the campus marquee.

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*Many university forms can be found on-line at:*  
[http://dsa.csupomona.edu/registrar/forms\\_services.asp](http://dsa.csupomona.edu/registrar/forms_services.asp)

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## **Articulation Agreements**

Articulation agreements from many of the community colleges in California are on-line at: [www.assist.org](http://www.assist.org) Articulation agreements are formal agreements between Cal Poly Pomona and community colleges. Students taking courses from their local community college which articulate to specific courses at Cal Poly Pomona will automatically receive credit for courses

within their curriculum. Students must have official transcripts sent to Cal Poly Pomona's Registrar's Office to receive credit. Before taking a course at a community college please check the articulation agreements to make sure you will receive credit.

## **Catalog**

All students need to be familiar with the current university catalog, which should not be confused with the schedule of classes. The university catalog is online and contains information about academic programs, admission and registration regulations, policies and procedures, course descriptions and prerequisites, etc. The university catalog is a critical reference since policies and prerequisites may change over time. The university catalog is the defining document and supercedes other written information. It can be found on-line at: [catalog.csupomona.edu](http://catalog.csupomona.edu)

## **Cell Phones/Electronic Devices**

Cell phones and electronic devices should be turned off during class and especially during exams. This is out of respect for your instructor and fellow classmates.

## **Change of Grade Petition**

When a student believes an error was made on his/her final grade in a course, the student may request that the instructor re-evaluate his/her work. If an error is found, a Change of Grade Petition may be submitted by the instructor to the Registrar's Office. An instructor has only one quarter to review a grade and submit the Change of Grade Petition.

## **Change of Major**

Review information and requirements for change of major for impacted and non-impacted programs online at: [www.csupomona.edu/~academic/programs/major-change.shtml](http://www.csupomona.edu/~academic/programs/major-change.shtml). You should also meet with someone in the dept you wish to change into to make sure you are a viable candidate and to make sure you understand the requirements.

## **Challenging Course/Credit by Exam**

Only enrolled undergraduate students may challenge courses by taking examinations developed at the campus. Credit shall be awarded to those who pass the challenge exam successfully. A student may not challenge more than 36 quarter units worth of coursework. An approved Petition for Credit by Examination permits regularly enrolled students to obtain university credit for subject matter in which they are especially qualified through nontraditional education or experience. Students must not have previously received credit for any course containing similar or advanced material from the same subject matter field. All prerequisites must be met. Credit is awarded on a CR/NC basis; however, courses challenged in a student's major core are only awarded letter grades. Petitions and detailed

instructions are available in the Registrar's Office.

## **Course Adding**

Students may add classes via BroncoDirect during registration, late registration, and up through the 5th day of classes. No classes may be added after this date.

## **Course Dropping/Withdrawal**

- *Up to the 5th day of classes:* Students may drop classes via BroncoDirect during registration, late registration and up through the 5th day of classes without record (no W).
- *From the 6th day of classes to the 15th day of classes:* Students may withdraw from classes via BroncoDirect, although courses will contribute to the 28-unit limit and will show a W on their record. (Students who need to drop classes after the 5th day of instruction because of illness or other problems of a serious nature beyond the students' control may request that such course withdrawals not contribute to the 28-unit limit. Approved requests for this type of withdrawal will be awarded a WX grade. The WX grade will be converted to a W on official transcripts. To make this request, students must submit a "Form" with the necessary approval signatures to the Office of Undergraduate Studies.)
- *After the 15th day of classes until the end of the 8th week of classes:* Students with a serious and compelling reason to withdraw from one or more classes must receive permission via a Course Withdrawal Form. Such withdrawals may be approved to not contribute to the 28-unit limit.

## **Course Repetition**

Courses can be repeated no more than two times for a maximum of three attempts. Review additional course repeat information online at: <http://dsa.csupomona.edu/registrar/eo1037repeat.asp>.

## **Course Substitution or Acceptance of Transfer Coursework**

Course work taken at another institution of higher education that does not articulate to courses at Cal Poly Pomona may be petitioned. The student, faculty advisor, department chair and Associate Dean must sign these petitions. The form is available on the CPP Registrar's Forms webpage at: [http://dsa.csupomona.edu/registrar/forms\\_services.asp](http://dsa.csupomona.edu/registrar/forms_services.asp). After you have seen your advisor, drop the petition off in the department office. The department chair or his/her representative will either approve or deny the petition. Approved petitions are forwarded to the Associate Dean. When petitions are approved, the student will be notified. Denied petitions are returned intact. Students wishing to substitute courses taken at Cal Poly Pomona also must use this process to receive credit.

## **Curriculum Year**

Your curriculum year is the academic year you entered Cal Poly Pomona or changed to your major. This is important, because you will be following that year's curriculum flowchart.

## **Degree Progress Report**

The Degree Progress Report can be viewed in Bronco Direct. This is updated regularly and shows courses required to graduate.



Lynne Lachenmyer, Chemical Engineering '80  
Vice President, ExxonMobil Chemical  
2011 Outstanding Alum

## **E-Mail Accounts**

Cal Poly Pomona provides all students with e-mail accounts. Cal Poly Pomona mandates that all students use their Cal Poly Pomona e-mail addresses. As of summer 2004, email is the official method of communication. Read your email frequently.

## **Faculty Evaluations**

- *STEP (Student Teacher Evaluation Procedure)*: Part-time lecturers are often asked to have their teaching evaluated by students each quarter. Tenured and tenure-track faculty have their teaching evaluated by students a minimum of two courses per academic year. Evaluations are conducted in classes by a representative of the faculty, usually a student, and brought to the department office. The results of these anonymous evaluations are placed in the faculty's personnel file. Any

student communications or evaluations provided outside of the regular evaluation process must be identified by name to be included in a personnel file.

- *RTP (Retention, Tenure & Promotion)*: Tenure-track faculty go through a process called "RTP." Each year students are asked for input on the teaching performance of tenure-track faculty members. These statements must be signed by the students and are included in the faculty members' "RTP" Packages.

- *Students' Rights*: Students have the right to discuss a faculty member's classroom performance in confidence with the department chair and/or submit signed, written comments to the department chair for possible inclusion in the faculty member's permanent personnel file. These actions may take place at any time and will not affect the student's course grade.

## **Flowchart or Evaluation/Curriculum Sheet**

The flowchart tells you what courses you are to take in order to receive your degree. Prerequisites are also listed for most core and support courses. You must use the flowchart for your curriculum year. The College has all curriculum sheets from the current academic year back to ten years ago. They are located on-line at: [www.csupomona.edu/engineering/current/currsheets/index.htm](http://www.csupomona.edu/engineering/current/currsheets/index.htm)

## **Graduation vs. Commencement**

Commencement is the "social" ceremony to celebrate your graduation. Graduation is a legal term meaning that you have completed all the requirements for the

Bachelor's degree. Just because you "walk" at Commencement does not mean that you have graduated. It is the student's responsibility to make sure both degree and major requirements are fulfilled. Commencement is an opportunity for your family and friends to witness and share in your celebration.

### **Graduation Writing Test (GWT)**

The university requires that all graduates demonstrate competency in writing skills. All persons who receive undergraduate, graduate, or external degrees from Cal Poly Pomona must pass the GWT. All international, immigrants and permanent residents must pass the GWT to receive a degree. Take the test after completing 90 units at Cal Poly Pomona. Students who have completed 120 units and have not taken the GWT will have a hold placed on their records. See the Test Center in 98-P2-4 for complete information.

### **Holds**

It is each student's responsibility to arrange for the removal of any registration holds on their records. In addition to holds for low GPA, you may have holds placed on your records by the Library, Health Center, Public Safety and any academic or administrative office on campus. In order to register in a timely manner, you should identify your holds and seek to have them removed as soon as possible.

### **Incomplete Grade**

An "I" signifies that a portion of required coursework has not been completed in the prescribed time-period due to unforeseen but fully justified reasons and that there is still a possibility of earning credit. The student requests the instructor to give him/her an "I" incomplete grade. If the instructor agrees, they may specify a grade to be assigned in the event that the student fails to complete the outstanding course work during the specified time frame. This grade will be specified by the instructor of record on the Contract for Incomplete Grade.

If a grade is not specified on the Incomplete Contract, the instructor does not submit a Change of Grade for the class in question before the 1-year time limit, and there is no approved extension of the time frame for the Incomplete grade, the grade "I" will automatically be converted to "IC" and the course is calculated into the students GPA as an "F".

### **Leave of Absence**

Students in good standing (GPA equal to or greater than 2.0) may request a Leave of Absence from the University. If you plan to be away from the University for more than two quarters, a Leave of Absence petition should be filled out.

The maximum time you may be away from the University on a Leave of Absence is two years (8 quarters). If the leave of absence is approved, when you return you do not have to reapply to the University and you may stay on your original curriculum year. Students may be gone two quarters (summer counts as a quarter) without

requesting a leave of absence. If you are gone for three or more quarters and have not filed a Leave of Absence, you will be required to reapply to the University and will be placed on a new curriculum year.

### **Mathematics Diagnostic Placement Test (MDPT)**

The MDPT must be taken to determine where students will start in math at Cal Poly Pomona. The MDPT is the only test that can allow students to start higher than MAT 105/106. To take the MDPT students must have first satisfied the ELM requirement. The MDPT test requirement must be met within the immediate three quarters before enrollment in mathematics. Engineering majors should take the Precalculus version of the MDPT. Tests are given each quarter. You must register in advance in person, Bldg 8, Room 111 or online at: <http://www.csupomona.edu/~math/mdpt.html>

### **Minors**

Students in consultation with the coordinator of the minor are to develop a program of study to meet undergraduate minor requirements.

### **Prerequisite Checking**

It is expected that students follow course prerequisites. Prerequisites are checked automatically at registration or manually in the department office. Students not having the correct prerequisites either by taking the courses at Cal Poly Pomona, through articulation, or by petition, will be not allowed to register in classes. It is most important to plan your prerequisites along with your required courses.

### **Retroactive Withdrawal**

Students who discontinue attendance and participation in all coursework in which they are officially enrolled for a particular quarter without submitting a withdrawal petition will receive the grade of “WU” in all coursework that quarter. Students may petition to have these grades retroactively changed to the administrative grade of “W” by demonstrating and documenting serious and compelling reasons for the unofficial withdrawal from the University. Petitions will not be approved for students who do not report for a class on the first meeting and assume the instructor will drop them from the class.

### **Textbooks**

Textbooks are available in the Bronco Bookstore or on-line at:  
[http://www.broncobookstore.com/buy\\_main.asp](http://www.broncobookstore.com/buy_main.asp)

### **Transfer & Graduation Advisors**

The Evaluations Office is responsible for awarding of all credit for transfer courses. Each student has an assigned evaluator based on their major, who verifies and gives credit for transfer work. If a student feels the proper credit was not given they should contact their department office.

# Questions?

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Web: [www.csupomona.edu/engineering](http://www.csupomona.edu/engineering)  
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Phone: 909.869.2600



Students and others who use this handbook should note that CPP and CoE rules and policy are subject to change, and that these changes may alter the information contained in this publication. Information is current as of printing date shown below.

*Need another copy of this booklet? It is available on-line at:*

**[www.csupomona.edu/engineering](http://www.csupomona.edu/engineering)**

*You can find it under the Current Students tab.*



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