

# Major Prep Courses for Engineering Majors



**Samueli**  
School of Engineering

The minimum Engineering Workload is at least 1 Math and

Aerospace Engineering (AE)  
Bioengineering (BE)  
Chemical Engineering (CH)  
Civil Engineering (CV)  
Computer Engineering (CE)  
Computer Science (CS)  
Computer Science & Engineer  
Electrical Engineering (EE)  
Materials Engineering (MAT)  
Mechanical Engineering (ME)

		Aerospace Engineering (AE)	Bioengineering (BE)	Chemical Engineering (CH)	Civil Engineering (CV)	Computer Engineering (CE)	Computer Science (CS)	Computer Science & Engineer	Electrical Engineering (EE)	Materials Engineering (MAT)	Mechanical Engineering (ME)
<b>MATH COURSES</b>	MATH 31A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MATH 31B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MATH 32A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MATH 32B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MATH 33A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MATH 33B		✓	✓		✓	✓	✓	✓		✓
	MECH&AE 82	✓									✓
	Either MATH 33B or MECH&AE 82				✓					✓	
MATH 61					✓	✓	✓				
<b>"SCIENCE" COURSES</b>	<b>CHEMISTRY</b>	CHEM 20A	✓	✓	✓	✓			✓	✓	✓
		CHEM 20B	✓	✓	✓	✓				✓	✓
		CHEM 20L	✓	✓	✓	✓				✓	✓
		CHEM 30A		✓	✓						
		CHEM 30AL		✓	✓						
		CHEM 30B		✓	✓						
	<b>PHYSICS</b>	PHYSICS 1A	✓	✓	✓	✓	✓	✓	✓	✓	✓
		PHYSICS 1B	✓	✓	✓	✓	✓	✓	✓	✓	✓
		PHYSICS 1C	✓	✓	✓	✓	✓	✓	✓	✓	✓
		PHYSICS 4AL	✓	✓	✓	✓			✓	✓	✓
		PHYSICS 4BL	✓						✓		✓
		Either PHYSICS 4AL or 4BL					✓	✓	✓		
	<b>COM SCI/EC ENGR/ PROGRAMMING</b>	COM SCI 30									
COM SCI 31		✓	✓		✓	✓C	✓C	✓C	✓	✓	✓
COM SCI 32						✓B-	✓B-	✓B-	✓		
COM SCI 33						✓	✓B-	✓B-			
COM SCI M51A/EC ENGR M16						✓B-	✓	✓	✓		
EC ENGR 3						✓C		✓	✓		
MECH&AE M20/C&EE M20 (MATLAB)		✓	✓	✓	✓					✓	✓
<b>LIFE SCI</b>	LIFE SCI 7A		✓								
	LIFE SCI 7C		✓								

**MAJOR PREP REQUIREMENTS**  
any courses completed from these lists will be calculated into the "Prep GPA"

Majors that require at least one prep course taken at UCLA be Physics at the time of applying: CV, CE, CS, CSE, EE

Majors that require at least one prep course taken at UCLA be Chemistry at the time of applying: BE, CH

Majors that require at least one prep course taken at UCLA be Chemistry or Physics at the time of applying: MAT

Majors that require at least two prep courses taken at UCLA be one from Chemistry and one from Physics at the time of applying: AE, ME

✓ Applicants to CE, CS, and CSE must have completed all the courses with the minimum grades in red on the first attempt before applying

Calculating your Prep GPA  
 Total Grade Points / Total attempted Units = GPA

A/A+	4
A-	3.7
B+	3.3
B	3
B-	2.7
C+	2.3
C	2
C-	1.7
D+	1.3
D	1
D-	0.7
F	0

STEP 1: From the list of Prep for the Major you are applying to, identify any courses you have completed and how many units each course was worth.

STEP 2: Use this chart to convert Letter grades to numeric values and calculate grade points earned for each course (letter grade numeric value x units course was worth)

Divide total grade points by total units of all prep courses taken to get your Prep GPA

Example

Course	Units	LG	Grade Value	Grade Points
Math 31B	4	A	4	16
Math 32A	4	B+	3.3	13.2
Chem 20A	4	A	4	16
Physics 1A	5	C+	2.3	11.5
Total Units	17		Total Grade Pts	56.7
GPA = 56.7/17 = 3.335				

Example with In Progress courses (what GPA do you need?)

Course	Units	LG	Grade Value	Grade Points
Math 31B	4	A	4	16
Math 32A	4	B+	3.3	13.2
Chem 20A	4	A	4	16
Physics 1A	5	C+	2.3	11.5
Math 32B	4	IP		56.7
Physics 1B	5	IP		
	26			

At the end of the Quarter
26 units completed x GPA target (3.500) = 91 grade pts total needed
Subtract grade points you already have (91-56.7 = 34.3)
Now do the GPA calculation just for your in progress courses
34.3 grade points / 9 units = 3.811