

2011-13 CATALOG CEE/CS UNIT AND REQUIREMENT COMPARISON

Major: Required Courses	CIS Track	CS Track	Hardware Track	Computer Engineering	Elect. Eng. Concentration	Electrical Engineering
Intro to Unix	CMPS 150	CMPS 150	CMPS 150	CMPS 150	CMPS 150	
Intro to Engineering				ECE 101	ECE 101	ECE 101
Web Design	CMPS 211					
Prog Fundamentals	CMPS 221	CMPS 221	CMPS 221	CMPS 221	CMPS 221	CMPS 221
OO Design	CMPS 222	CMPS 222	CMPS 222			
Data Structures	CMPS 223	CMPS 223	CMPS 223	CMPS 223	CMPS 223	
Assembly		CMPS 224	CMPS 224	CMPS 224	CMPS 224	CMPS 224
Discrete Structures	CMPS 295	CMPS 295	CMPS 295	CMPS 295	CMPS 295	
Algorithms	CMPS 312	CMPS 312				
Linear Systems				ECE 304	ECE 304	ECE 304
Complex Analysis					ECE 306	ECE 306
Analog Circuits				ECE 307	ECE 307	ECE 307
Digital Circuits		ECE 320	ECE 320	ECE 320	ECE 320	ECE 320
Comp Architecture		CMPS 321	CMPS 321	CMPS 321	CMPS 321	
VHDL Design				ECE 322	ECE 322	
Prop of Materials						ECE 325
Signals & Systems					ECE 330	ECE 330
Fields & Waves						ECE 332
Software Eng	CMPS 335	CMPS 335				
Database Design	CMPS 342	CMPS 342				
Prog Languages	CMPS 350	CMPS 350				
AI	CMPS 356	CMPS 356				
Operating Systems	CMPS 360	CMPS 360	CMPS 360	CMPS 360	CMPS 360	
Computer Graphics	CMPS 371		CMPS 371			
Computer Networks	CMPS 376	CMPS 376	CMPS 376			
Java, Adv. Internet	CMPS 394					
Embedded Systems				ECE 420	ECE 420	
Subtotal Major	71 units	71 units	51 units	58 units	68 units	47 units
Cognate: Required Courses						
PreCalculus I	MATH 191					
Stat or PreCalc II	MATH 140					
Calculus I		MATH 201	MATH 201	MATH 201	MATH 201	MATH 201
Calculus II		MATH 202	MATH 202	MATH 202	MATH 202	MATH 202
Calculus III		MATH 203	MATH 203	MATH 203	MATH 203	MATH 203
Calculus IV			MATH 204	MATH 204	MATH 204	MATH 204
Linear Algebra		MATH 330	MATH 330		MATH 330	
Probability		MATH 340				MATH 340
Physics I		PHYS 221	PHYS 221	PHYS 221	PHYS 221	PHYS 221
Physics II		PHYS 222	PHYS 222	PHYS 222	PHYS 222	PHYS 222
Physics III				PHYS 223	PHYS 223	PHYS 223
RLC Circuits			ENGR 207	ENGR 207	ENGR 207	ENGR 207
Chemistry I						CHEM 211
Subtotal Cognate	10 units	37 units	42 units	43 units	48 units	53 units
Electives	25 units	5 units	15 units	10 units	20 units	10 units
Senior Project xx490	5 units	5 units	5 units	5 units	5 units	5 units
Total Core Units	111 units	118 units	113 units	116 units	141 units	115 units

University Requirements:	CIS Track	CS Track	Hardware Track	Computer Engineering	Elect. Eng. Concentration	Electrical Engineering
CSUB 101 (note 3)	2 units	2 units	2 units			
Goal A1	5 units	5 units	5 units	5 units	5 units	5 units
Goal A2	5 units	5 units	5 units	5 units	5 units	5 units
Goal A3 (note 1)	5 units	5 units	5 units			
Goal B1,B3 (note 7)	5 units					
Goal B2, BIOL 100	5 units	5 units	5 units	5 units	5 units	5 units
Goal B4 (note 6)						
Three C Goals	15 units	15 units	15 units	15 units	15 units	15 units
US History	5 units	5 units	5 units	5 units	5 units	5 units
Goal D1, D4, or D5	5 units	5 units	5 units	5 units	5 units	5 units
Goal D2 (note 5)	5 units	5 units	5 units	5 units	5 units	5 units
Goal D3 (note 4)	5 units	5 units	5 units	5 units	5 units	5 units
Theme I (note 2)						
Theme II, PHIL 316	5 units	5 units	5 units	5 units	5 units	5 units
Theme III	5 units	5 units	5 units	5 units	5 units	5 units
Gender, Race, Eth.	5 units	5 units	5 units	5 units	5 units	5 units
Subtotal University	77 units	72 units	72 units	65 units	65 units	65 units
Graduation Total	188 units	190 units	185 units	181 units	206 units	180 units

Notes:

1. Goal A3 is waived for engineering.
2. Theme I is waived for both computer science and engineering.
3. CSUB 101 is not required for transfer students; engineering students entering as freshman at CSUB should take the Introduction to Engineering section of CSUB 101 (also called ECE 101).
4. PLSI 101 is recommended for Goal D3 because it also counts toward the State Government requirement.
5. ECON 201 (Microeconomics) or ECON 202 (Macroeconomics) are recommended for Goal D2.
6. MATH 140, MATH 192, MATH 201 (or higher) count for Goal B4; consequently, computer science and engineering majors do **not** need to take a separate course for Goal B4.
7. PHYS 221 counts for both Goals B1 and B3; consequently, **only** CIS Track students need to take a separate course to satisfy Goals B1 and B3.
8. The GWAR requirement must also be satisfied for graduation; it is strongly recommended that the student take the exam rather than an optional class.