

NAME: _____ I.D. _____

BIOLOGICAL SYSTEMS ENGINEERING ~ LOWER DIVISION REQUIREMENTS
2006-2007 ENGINEERING BULLETIN

Units/	Course	Qtr	Usually Taken	Title (L) = Lab Course	Prerequisites (COI=Consent of Instructor) (MTC=May take concurrently)
MATH					
4/	Math 21A	I, II, III	1	Calculus	Score of 35 or better on PreCalc Qual. Exam
4/	Math 21B	I, II, III	2	Calculus	Math 21A or 21AH
4/	Math 21C	I, II, III	3	Calculus	Math 21B or 21BH
4/	Math 21D	I, II, III	4	Vector Analysis	Math 21C
3	Math 22A*	I, II, III	5	Linear Algebra	9 units of college math * (22AL required if opt for ECS 30)
3/	Math 22B	I, II, III	6	Differential Equations	Math 21C and 22A
PHYSICS					
5/	Physics 9A	III	3	Classical Physics (L)	Math 21B
5/	Physics 9B	I	4	Classical Physics (L)	Phy 9A or 5A (COI), Math 21C and 21D (MTC)
5/	Physics 9C	II	5	Classical Physics (L)	Phy 9B; Math 21D and 22A (MTC)
GENERAL CHEMISTRY					
5/	Chem 2A	I, II	2	General Chemistry (L)	Score of 20 or better on Chem. Diag. Text OR Chem 9 with C or better grade.
5/	Chem 2B	II, III	3	General Chemistry (L)	Chem 2A or 2AH
ORGANIC CHEMISTRY					
2(4)/	Chem 8A/118A	I,III/I,II	7	Organic Chem/O Che for Life Sci	CHE 2B w/C- or higher/CHE 2C w/C- or higher
BIOLOGICAL SCIENCE (or FOOD SCIENCE)					
5/	BIS 1A	I, II, III	4	Introductory Biology	Chem 2B (MTC)
5/	BIS 1B**	I, II, III	5	Introductory Biology (L)	
5/	BIS 1C**	I, II, III	6	Introductory Biology (L)	
			**Not for Food Engrs. See Upper Division for Food Engineering courses.		
ENGINEERING SCIENCE					
5/	EBS 1	I	1	Intr. to Bio. Sys. & Food Eng. (L)	None.
4/	ENG 6 (or)	I, II, III	2	Application of Computers	Math 16B or 21B (MTC)
4/	ECS 30*	I, II, III	2	Intro. to Program & Problem Solv.	Math 16A or 21A * (MAT 22AL required if opt for ECS 30)
3/	ENG 35	I, II, III	4	Statics (L)	Math 21D (MTC) and Phy 9A
4/	ENG 17	I, III	6	Circuits	Math 22B (MTC) and Phy 9C
4/	EBS 75	II	5	Prop. of Matls. in Bio. Sys. (L)	BIS 1A and Phy 9C (MTC)
ENGLISH					
4/	UWP 1 (or)	I, II, III	1	Expository Writing	Must satisfy Subject A
4/	ENL 3	I, II, III		Intro. to Literature	Must satisfy Subject A
<i>(or)</i>					
4/	COM 1 (or)	I, II, III		Great Books of West. Culture: ... The Ancient World	Must satisfy Subject A
4/	COM 2 (or)	I, II, III		... Middle Ages to Enlightenment	Must satisfy Subject A
4/	COM 3 (or)	I, II, III		... Modern Crisis	Must satisfy Subject A
4/	COM 4	I, II, III		Maj. Books of the Cont. World	Must satisfy Subject A
<i>(or)</i>					
NAS 5		I, II, III		Intro. to Native Amer. Lit.	Must satisfy Subject A
CMN 1 (or)		I, II, III	1-3	Intro. to Public Speaking	Must satisfy Subject A (GE WRITING)
CMN 3		I, II, III		Interpersonal Comm. Competence	Must satisfy Subject A
GENERAL EDUCATION (UCD Campus Requirement)					
6 GE courses in topical breadth:					Refer to lists of courses certified by the College of Engineering for GE credit. Subject A must be satisfied before you can take writing courses for credit. Some courses may count toward two or three components of GE.
3 from Arts & Humanities and 3 from Social Sciences					
A TOTAL OF 24 UNITS					
... TWO OF THE SIX COURSES MUST BE UPPER DIVISION ...					
3 GE courses in writing experience. 1 GE course in social-cultural diversity. (IGETC does not satisfy the upper division requirement.)					

Freshman = 00.00 - 44.99 units
 Sophomore = 45.00 - 89.99 units
 Junior = 90.00 - 134.99 units
 Senior = 135.0 + units

Subject A Satisfied: _____

American History & Institutions Satisfied: _____

MINIMUM LOWER DIVISION UNITS REQUIRED: 94
MINIMUM REQUIREMENTS REQUIRED FOR MAJOR: 181