

**BIOLOGY ADT TO CSU EAST BAY BIOLOGY B.S.
– MICROBIOLOGY AND BIOMEDICAL LAB SCIENCES CONCENTRATION**

ADT BIOLOGY– 60 Sem. Units	Sem. Units	Community College Courses
CSUGE or IGETC	39	<i>CSU general education certification requires completion of all requirements in Areas A through E, approximately 39 units</i>
AREA D REQUIREMENT: US History, Constitution & American Ideals Code Requirement	3-9	US-1: US-2: US-3:
Diversity/Social Justice/Sustainability <i>Can be fulfilled in area C or D</i>	3-9	DIV: SJ: SUS:
Second Composition (Comp II) Can be fulfilled with A3 Any Composition course with ENGL 100 as a prerequisite	3	
<i>The following areas are for the CID TMC/Courses and matching Community College Courses</i>		
Major Core (C-ID)	8	Community College Courses
BIOL 190 - Cell and Molecular Biology (4)	4	
BIOL 140 - Organismal Biology (4)	4	
LIST A	22	
CHEM 120S - General Chemistry for Science Majors (10)	10	
MATH 210 - Single Variable Calculus I – Early Transcendentals (4)	4	
PHYS 105 - Physics: Algebra/Trigonometry-Based Physics A (4)	4	
PHYS 110 - Physics: Algebra/Trigonometry-Based Physics B (4)	4	
LIST B: Choose 1 course	0-4	
Any course articulated as lower division preparation in the Biology major at a CSU.		
Total Units ADT *BIOLOGY *	60	

PLEASE NOTE: This page assumes Semester Units.

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CSUEB: BIOLOGICAL SCIENCES B.S. <i>Complete Degree in 60 Semester Units</i>	Semester UNITS	NOTES
GRADUATION REQUIREMENTS <i>These should be fulfilled at the Community College, however if not taken at the Community College, they must be completed at CSU East Bay</i>		
US History, Constitution & American Ideals	0-9	
1) First Category US-1	0-3	
2) Second Category US-2	0-3	
3) Third Category US-3	0-3	
These courses must be taken at CSU East Bay		
Upper Division GE <i>See catalog</i>	9	CSUEB COURSES
Please note: A minimum of three courses in the Upper Division General Education pattern must have a topic/learning outcome oriented toward one of the following topic areas (overlays): Diversity, Social Justice, or Sustainability.		
Area B6 Upper Division Science course	3	Course: OVERLAY:
Area C4 Upper Division Humanities course	3	Course: OVERLAY:
Area D4 Upper Division Social Sciences course	3	Course: OVERLAY:
Upper Division Core	7	
BIOL 310 - Genetic Analysis I Units: 4		
BIOL 320 - Evolutionary Biology Units: 3		
Concentrations: 36 units		
Microbiology and Biomedical Lab Sciences Concentration		
Upper Division Coursework	21	
BIOL 330 - General Microbiology Units: 5	5	
BIOL 430 - Microbial Physiology and Metabolism Units: 3	3	
CHEM 331 - Organic Chemistry I Units: 5	5	
CHEM 332 - Organic Chemistry II Units: 5	5	
CHEM 340 - Survey of Biochemistry Units: 3	3	
Electives	15+	Choose a minimum of 15 units of electives from the following list of courses. Note: BIOL 398 Co-operative Education and/or BIOL 490 Independent Study may be used for a maximum of 3 units elective credit. Enrollment in these courses requires approval by a faculty member and the Department Chair.
BIOL 398 - Internship Units: 1-4		
BIOL 431 - Medical Microbiology Units: 5		
BIOL 432 - Microbe-Host Interactions Units: 3		
BIOL 433 - Microbial Ecology Units: 3		
BIOL 434 - Molecular Microbiology Units: 3		
BIOL 442 - Epidemiology Units: 3		
BIOL 444 - Medical Entomology Units: 3		
BIOL 468 - Molecular Ecology Units: 4		
BIOL 490 - Independent Study Units: 1-4		
These courses are recommended if the student objective is to apply to a Clinical Lab Scientist licensing program:		

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BIOL 440 - Molecular Virology <i>Units: 3</i>		
BIOL 441 - Parasitology <i>Units: 3</i>		
BIOL 443 - Hematology <i>Units: 4</i>		
BIOL 445 - Immunology <i>Units: 3</i>		
BIOL 454 - Biology of Fungi <i>Units: 4</i>		
CHEM 220 - Quantitative Analysis <i>Units: 4</i>		
ADDITIONAL COURSE to reach 60 Units	8	<i>These courses may be additional Major Courses or prerequisites not taken at the Community College</i>
<i>If needed</i>		
Total Semester Units at CSUEB	60	60

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FIRST SEMESTER JUNIOR YEAR			
Register to take the University Writing Skills Requirement			
UDGE B6	COURSE:	OVERLAY:	3
UD CORE	BIOL 310	GENETIC ANALYSIS	4
CONCENTRATION	BIOL 330	GENERAL MICROBIOLOGY	5
CONCENTRAION	CHEM 331	ORGANIC CHEM I	5
		TOTAL:	17
SECOND SEMESTER JUNIOR YEAR			
TAKE THE UNIVERSITY WRITING SKILLS TEST			
UDGE D4	COURSE:	OVERLAY	3
UD CORE	BIOL 320	EVOLUTIONARY BIOLOGY	3
CONCENTRATION	CHEM 332	ORGANIC CHEM II	5
ELECTIVE	CHOOSE FROM BIOL LIST		3
		TOTAL:	14
THIRD SEMESTER SENIOR YEAR			
Verify that you have completed the University Writing Skills Requirement. Check your MyCSUEB "Degree Audit Report" (DAR) and email any discrepancies to The ADT ADVISER.			
UDGE C4	COURSE:	OVERLAY	3
ELECTIVE	CHOOSE FROM BIOL LIST		3
ELECTIVE	CHOOSE FROM BIOL LIST		3
ELECTIVE			3
ELECTIVE			2
		TOTAL:	14
FOURTH SEMESTER SENIOR YEAR			
See the ADT ADVISER and apply for graduation through MyCSUEB by the posted deadline, available at Important Dates			
CONCENTRATION	CHEM 340	SURVEY OF BIOCHEMISTRY	3
CONCENTRATION	BIOL 430	MICROBIAL PHYSIOLOGY & METABOLISM	3
ELECTIVE	CHOOSE FROM BIOL LIST		3
ELECTIVE	CHOOSE FROM BIOL LIST		3
ELECTIVE			3
		TOTAL:	15
GRAND TOTAL:			60