

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE
BACHELOR OF SCIENCE IN BIOLOGY, CELL AND MOLECULAR BIOLOGY (OPTION I)

Lower Division Core

COURSE	TITLE	UNITS	PREREQUISITES & CO-REQUISITES
Biol 106/L	Biological Principles I and Lab	3+1	Corequisite: Biol 106 and 106L must be taken concurrently
Biol 107/L	Biological Principles II and Lab	3+1	Corequisite: Biol 107 and 107L must be taken concurrently, Chem 102/L recommended
Chem 101/L	General Chemistry I and Lab	4+1	Prerequisite: Satisfactory score on the CPT or a grade of "C" or higher in Chem 100 taken at CSUN only Corequisite: Chem 101, 101L, and 101 Discussion must be taken concurrently
Chem 102/L	General Chemistry II and Lab	4+1	Prerequisite: Chem 101/L with a grade of "C-" or better in 101 Corequisite: Chem 102, 102L, and 102 Discussion must be taken concurrently
Phys 100A/AL	General Physics I	3+1	Prerequisite: Math 103, 104, 105 or Math 106 or a score on the MPT sufficient for entry into Math 255A
Phys 100B/BL	General Physics II	3+1	Prerequisite: Phys 100A
Math 255A OR Math 150A	Calculus for the Life Sciences I	3	Prerequisite: B- in Math 105 or 23 on ALG and 6 on TR of MPT (Full Prep) OR C- in Math 105 or 20 on ALG and 4 on TR of MPT (Conditional Prep) Corequisite: Math 255AL(for Math 255A) OR Math 150AL (for Math 150A) (if Conditional Prep)

Upper Division Core

COURSE	TITLE	UNITS	PREREQUISITES & CO-REQUISITES
Biol 322	Evolutionary Biology	3	Prerequisite: Biol 106/L and Biol 107/L passed with grades of "C" or better
Biol 360	Genetics	3	Prerequisite: Biol 106/L and Biol 107/L passed with grades of "C" or better; Chem 101/L or Chem 103/L; Math 105 or Math 102+104
Biol 380/381	Cell Biology and Lab	3+1	Prerequisite: Biol 106/L and Biol 107/L passed with grades of "C" or better; Chem 102/L or Chem 104
Chem 333/L	Principles of Organic Chemistry I and Lab	4+1	Prerequisite: Chem 102/L with a grade of "C-" or better in 102 Corequisite: Chem 333, 333L, and 333 Discussion must be taken concurrently
Chem 334/L	Principles of Organic Chemistry II and Lab	3+1	Prerequisite: Chem 333/L with a grade of "C-" or better in 333 Corequisite: Chem 334 and 334L must be taken concurrently

SELECTIVE PROGRAM: 30 UNITS REQUIRED, 7 MUST BE LAB UNITS

1. Biochemistry (3-8 units): Choose Chem 464 OR Chem 461/L & 462/L
2. Cells and Tissues (6-8 units): Choose TWO courses
3. Molecular Genetics (6-7 units): Choose TWO courses
4. Electives: Choose additional courses from any section for a total of 30 units (including 7 lab units)

1. BIOCHEMISTRY (3-8 UNITS): Choose from the following: Chem 464 OR Chem 461/L & 462/L

COURSE	TITLE	UNITS	TOTAL UNITS	LAB UNITS
Chem 464	Principles of Biochemistry (Lab can be taken as an elective)	3		
Chem 461/L	Biochemistry I and Lab	3+1		
Chem 462/L	Biochemistry II and Lab	3+1		

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2. CELLS AND TISSUES (6-8 UNITS): Choose TWO courses from the following:

COURSE	TITLE	UNITS	TOTAL UNITS	LAB UNITS
Biol 382/L	Human Anatomy/Physiology I and Lab	3+1		
Biol 383/L	Human Anatomy/Physiology II and Lab	3+1		
Biol 410/L	Medical Microbiology and Lab	2+2		
Biol 411/L	Animal Histology and Lab	2+2		
Biol 417/L	Microbial Physiology and Lab (Prereq: Biol 215/L or Biol 315/L)	2+2		
Biol 437/L + 492 V	Fungi (Prereq: Biol 315/L, Biol 380, Chem 333)	2+1+1		
Biol 441/L	Embryology and Lab	2+2		
Biol 475/L	Biological Imaging and Lab	2+2		
Biol 476	Topics in Stem Cell Biology (Bridges only)	3		
Biol 477/L	Cell and Tissue Culture and Lab	2+2		
Biol 479	Endocrinology	3		
Biol 480/L	Cellular Physiology and Lab	2+2		
Biol 481/L	Plant Physiology and Lab	2+2		
Biol 482/L	Animal Physiology and Lab	2+2		
Biol 483/L	Principles of Neurophysiology and Lab	3+1		
Biol 485/L	Immunology and Serology and Lab	2+2		
Biol 487/L	Hematology and Lab	2+2		
Biol 489	Cellular Immunology	3		
Biol 493	Mechanisms of Bacterial Pathogenesis	3		
Biol 536	Medical Mycology	3		

3. MOLECULAR GENETICS (6-7 UNITS): Choose TWO courses from the following:

COURSE	TITLE	UNITS	TOTAL UNITS	LAB UNITS
Biol 408/L	Applied Microbiology and Lab	2+2		
Biol 442/L	Developmental Biology and lab	2+2		
Biol 444	Biology of Viruses	3		
Biol 461	Molecular Genetics of Microorganisms	3		
Biol 462	Molecular Genetics of Eukaryotic Organisms	3		
Biol 464	Human Biochemical Genetics	3		
Biol 467/L	Bacterial Genetics and Lab	2+2		
Biol 468	Human Genetics	3		
Biol 469	Medical Genetics	3		
Biol 470	Biotechnology	3		
Biol 471A	Molecular Diagnostics	3		
Biol 472/L	Recombinant DNA Technology and Lab	2+2		
Biol 473	Clinical Cytogenetics and Cancer Genetics	3		
Biol 563	Cytogenetics	3		

4. ELECTIVES: Choose additional courses from the 3 sections above or from the courses listed below for a total of 30 units, 7 of those must be lab units:

COURSE	TITLE	UNITS	TOTAL UNITS	LAB UNITS
Biol 315/L	Principles of Microbiology and Lab	2+2		
Biol 330/L	Design and Analysis of Experiments	2+1		
Biol 435/L	Parasitology and Lab	2+2		
Biol 447/L	Full Immersion Research Experience (FIRE) and Lab	2+2		
Biol 490, 495, 499, 526	Tutorial Studies, Research Units (no more than 3 units)	1-3		
Biol 502/L	Biometry and Lab	3+1		
Biol 503/L	Bioinformatics and Lab	3+1		
Biol 551/L	Computer Modeling in Biology and Lab	2+2		
Chem 464L	Biochemistry Lab	1		
Math 255B	Calculus II	3		