Cell, Molecular, and Developmental Biology (CMDB)

Tentative Course Offerings

Updated Oct 2022

Major Core							
Course #	Course Name	Units	Prerequisite	Fall	Winter	Spring	Summer
BIOL 102	Introduction to Genetics	4	BIOL 005B with grades of "C-" or better	✓	✓	✓	✓
BIOL 107A*	Molecular Biology	4	BIOL5C; MATH 7B or MATH 009B; PHYS 002C, PHYS 02LC; BCH 100 or BCH 110A	✓	✓	✓	✓
CBNS 101	Fundamentals of Cell Biology	4	CHEM 8C; BCH 100 or BCH 110A (may be taken concurrently)	✓	✓	✓	✓
CBNS 108	Introduction to Developmental Biology	4	BIOL102, CHEM 8C/LC, or consent of instructor			✓	✓
Major Electives - Cellular Emphasis (pick at least 1, need 24 Major Elective units total)							
Course #	Course Name	Units	Prerequisite	Fall	Winter	Spring	Summer
BCH 180G	Cell Signaling	2	BCH 197 or BIOL107A or BCH 110C (C– or better)				
BIOL/MCBL 121	Introductory Microbiology	4	BIOL 5C, MATH7B or 9BPHYS 2A/2LA, BCH 100 or 110A (may be taken concurrently), STAT10	✓	✓	✓	✓
BIOL/CBNS 128	Immunology	3	BIOL 005C; PHYS2C/LC; BCH 100 or BCH 110A			✓	✓
BPSC 135	Plant Cell Biology	4	BIOL 005C; BCH 100 or BCH 110A or consent of instructor		✓		
CBNS 106	Intro to Neuroscience	4	BIOL005B (C– or better), CHEM1C/LC	✓	✓	✓	✓
CBNS 116	Human Neuroanatomy: Structure-Function Relationships	4	CBNS 106 with a grade of "C-" or better			✓	
CBNS/PSYC 120	Cellular Neuroscience: Membrane and Synaptic Phenomena	4	CBNS 106		✓	✓	✓
CBNS 165	Stem Cell Biology	4	CBNS 101 or consent of instructor		✓		✓
MCBL 129	Host Responses to Viral Pathogens	4	BIOL5C, CHEM 8C/LC, MATH 7B or MATH 009B, PHYS2C/LC, BCH 100 or BCH 110A (may be taken concurrently)		✓		

*BCH 110C can substitute for BIOL107A

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Major Electives - Molecular Emphasis (pick at least 1)							
Course #	Course Name	Units	Prerequisite	Fall	Winter	Spring	Summer
BCH 180E	Advanced Methods in Biochemistry: Gene Regulation	2	upper-division standing, concurrent enrollment in BCH 197 or equivalent or BCH 110C with grade of "C-" or better or BIOL 107A with grade of "C-" or better	✓			
BIOL 107B	Advanced Molecular Biology	3	BIOL 107A or BCH 110C or equivalents			✓	
BIOL 119	Introduction to Genomics and Bioinformatics	4	BIOL 005C with a grade of "C-" or better, BIOL 102, CHEM8C/LC, MATH 7B or MATH 009B, PHYS2C/LC, BCH 100 or BCH 110A	✓	✓	✓	
BIOL/MCBL 124	Pathogenic Microbiology	4	BIOL5C;CHEM8C/LC; MATH 007B or MATH 009B; PHYS2C/LC; BCH 100 or BCH 110A; STAT10*,		✓		
BIOL/BPSC 155	Chromosomes	4	BIOL5C, CHEM8C/LC, MATH 7B or MATH 009B, PHYS2C/LC, BCH 100 or BCH 110A (BCH 100 or BCH 110A may be taken concurrently), or consent of instructor			✓	
BPSC/CBNS 109	Epigenetics	4	BIOL 102				
CBNS/ENTX 150	Cancer Biology	4	BCH 110C or BIOL 107A or CBNS 101 (may be taken concurrently with consent of instructor)	✓		✓	✓

Major Electives - Developmental Emphasis (pick at least 1)							
Course #	Course Name	Units	Prerequisite	Fall	Winter	Spring	Summer
BCH /BPSC 183	Plant Biochemistry and Pharmacology	4	BCH 110A, BCH 110B; or BCH 100	✓			
BIOL 115	Human Genetics	4	BIOL 102, BCH 100 or 110A				
BIOL/MCBL 123	Introduction to Comparative Virology	4	BIOL5C, CHEM 8C/LC, MATH 7B or MATH 009B, PHYS2C/LC, BCH 100 or BCH 110A, one course in statistics		✓	✓	
BIOL/BPSC 132	Plant Anatomy	4	BIOL5B; BPSC 104 or BIOL 104, or consent of instructor		✓		
CBNS/PSYC 121	Developmental Neuroscience	4	CBNS 106		✓		✓
CBNS 169	Human Embryology	4	BIOL5C				

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Tentative Course Offerings

Major Electives - Laboratory Courses (pick at least 2)							
Course #	Course Name	Units	Prerequisite	Fall	Winter	Spring	Summer
BIEN 155	Biotechnology Laboratory	2	concurrent enrollment in BIEN 175A or a grade of "C-"or better in BIEN 175A; BIEN 101, BIEN 125	✓			
BIOL/BPSC 104	Foundations of Plant Biology	4	BIOL 005C	✓	✓	✓	✓
BIOL 118	Laboratory in Molecular Phylogenics and Evolution	4	BIOL 005C with a grade of "C-" or better, CHEM8C/LC, MATH 007B or MATH 009B, PHYS2C/LC, STAT 10*, BCH 100 or BCH 110A	✓			
BIOL/MCBL 121L	Microbiology Laboratory	3	BIOL 121/ MCBL 121 with a grade of "C-" or better.	✓	✓	✓	
BIOL/BPSC 132	Plant Anatomy	4	BIOL5B; BPSC 104 or BIOL 104 or consent of instructor		✓		
BIOL/BPSC 143	Plant Physiology	4	BIOL5C, CHEM8C/LC, MATH 7B or 9B, PHYS2C/LC, BCH 100 or BCH 110A (BCH 100 or BCH 110A may be taken concurrently), BIOL 104/ BPSC 104.	✓			
BIOL 161A	Functional Anatomy of the Verte-brates	5	BIOL 5C, CHEM8A/LA, MATH 7B or 9B, PHYS 002A/LA	✓			
CBNS/PSYC 120L	Neuroscience Laboratory	2	CBNS 120/PSYC 120	✓	✓	✓	✓
MCBL 125	Experimental Microbiology	4	Upper division standing in MCBL BIOL 102, BIOL 107A, BIOL 121/ MCBL 121, BIOL 121L/MCBL 121L		✓	✓	
PHIL 9 or 167	Biomedical Ethics	4	None				✓
Research*	Life Science Research	3-8	Please see individual lab course descriptions for pre-reqs	✓	✓	✓	✓

*Three units of BCH 197, BIOL 197, BMSC197L, BPSC 197, CBNS 197, ENTM 197, PLPA 197, MCBL 197, NEM 197, BCH 199, BIOL 199, BPSC 199, CBNS 199, ENTM 199, PLPA 199, MCBL199, or NEM 199 may substitute for one required lab course.

A maximum of 8 units of 190-199 courses, including no more than 4 units of 198 courses, may counted toward the major elective requirement. An additional 1 unit may apply to the depth area.

Schedule subject to change

Please consult catalog.ucr.edu for full list of pre-requisites and course descriptions