

Courses listed in *ITALIC* type cannot be applied to Biology elective reqmts. This schedule is subject to frequent changes. See the on-line class schedule for the most accurate information.

BIOL	TITLE	CR	NOTES	LAB	PRE-REQUISITES and COMMENTS (C- or better needed unless otherwise indicated)	SEM
1010	<i>Biology in the 21st Century</i>	3	DV, SF		Not counted toward BIOL Degree.	F/S
1030	<i>Human Biology</i>	3	SF		Not counted toward BIOL Degree.	F23
1610	Fundamental Principles of Biology I	4	SF		(Recommend MATH 1010 or higher)	ALL
1615	Fundamental Principles of Biology Lab I	1		[L1]	Co-req BIOL 1610 (or Pre-req BIOL 1210)	F/S
1620	Fundamental Principles of Biology II	4			(Recommend MATH 1010 or higher)	F/S
1625	Fundamental Principles of Biology Lab II	1		[L1]	Co-req BIOL 1620 (or Pre-req BIOL 2010)	F/S
2020	Principles of Cell Biology	3			BIOL 1210 -or- 1610 -or- AP4+ or IB5 -or- BME 1020 -and- CHEM 1210 -or- 1211 -or- AP4+	F/S
2021	Principles of Cell Science	4	Honors		BIOL 1210 -or- 1610 -or- AP4+ or IB5 -or- BME 1020 -and- CHEM 1210 -or- 1211 -or- AP4+ -and- Honors College -or- Instructor Consent	F
2030	Principles of Genetics	3			BIOL 2020 -or- 2021	F/S
2032	Genetics in Research	1			*Co-req BIOL 2030 in same semester	
2210	Human Genetics	3	SF		BIOL 1210 -or- 1610 -or- AP4+ -or- IB5	
2325	Human Anatomy	4		[L1]		ALL
2355	Field Botany	2	Half Sem	[L1]		Su
2420	Human Physiology	4	AS		BIOL 1210 -or- 1610 -or- AP4+ -or- IB5 -and- CHEM 1110 -or- 1130 -or- 1210 -or- 1211 -or- AP4+	ALL
2425	Human Physiology Lab	1		[L1]	*Co-Req: BIOL 2420	F/S
2870	Faculty Research Seminar	1				F
3125	Mol Tools for Evol & Pop Biology	3	Half Sem	[L2]	BIOL 1620 -or- 2010 -and- 2030	S (even)
3205	General Microbiology Lab	1		[L1]	*Co-Req: BIOL 3210 -or- 3370 -or- PATH 3100	F/S
3210	General & Pathogenic Microbiology	3	opt. CEL		BIOL 2020 -or- 2021 -and- CHEM 1110 -or- 1130 -or- 1210 -or- 1211 -or- AP4+	F/S
3230	Developmental Biology	3			BIOL 2030	F
3240	Intro to Cellular Neurobiology	3			BIOL 2020 -or- 2021	F
3270	Microbial Ecosystems	3			BIOL 1620 -or- 2010	S
3310	Comp Vertebrate Morphology	3	F&F		BIOL 1620 -or- 2010	S
3315	Comp Vertebrate Morphology Lab	1		[L1]	BIOL 1620 -or- 2010	S
3320	Comparative Physiology	3	F&F		BIOL 1620 -or- 2010	F
3325	Comparative Physiology Lab	3		[L2]	BIOL 1210 -or- 1610 -or- AP4+ -or- IB5	S
3330	Behavioral Neurobiology	3	F&F		BIOL 1620 -or- 2010 -or- 2420	S
3340	Intro to Plant Biology	3	F&F		BIOL 1210 -or- 1610 -or- AP4+ -or- IB5	S
3360	Vertebrate Embryology	3			BIOL 2325	F (even)
3370	Microbial Biology	3	F&F		BIOL 2020 -or- 2021	S
3380	Evol & Physiol Basis of Health	3	F&F		BIOL 2020 -or- 2021 -or- 2420	F
3410	Ecology & Evolution	3			BIOL 1620 -or- 2010 -and- MATH 1170 -or- 1310 -or- 1210 -or- 1250 -or- AP Calc AB4+ -or- BC3+ -or- IB5+	F/S
3430	Behavioral Ecology	3			BIOL 1620 -or- 2010	S (odd)
3450	Rainforest Ecology & Conservation (SL)	3	SF, IR		BIOL 1620 -or- 2010	
3460	Global Environmental Issues (SL)	3	SF, IR, CEL			F23
3461	Diversity/Justice Global Env Challenges	1			Co-req BIOL 3460	F23
3470	Conservation Biology	3	AS, CEL			S
3485	Conservation Biology Field Lab	1		[L1]	BIOL 1620 -or- 2010 -and- *Co-Req: BIOL 3470 (Recommend: BIOL 3410)	S
3510	Biological Chemistry I	3	CEL		CHEM 2310 -or- 2311	ALL (Su in Chem)
3515	Biological Chemistry Lab	3		[L1]	*Co-Req: BIOL 3510 -or- CHEM 3510	S
3520	Biological Chemistry II	3			BIOL 3510 -or- CHEM 3510	S
3525	Molecular Biology of DNA Lab	3		[L2]	Recommend BIOL 3510	F
3550	Physical Principles in Biology	3	QI		BIOL 2020 -or- 2021 -and- CHEM 1220 -or- 1221 -and- MATH 1180 -or- 1220	F
3551	Physical Principles in Biology	3	Honors, QI		BIOL 2020 -or- 2021 -and- CHEM 1220 -or- 1221 -and- MATH 1180 -or- 1220 -and- Member of Honors College	F
3665	Form, Function & Adaptation In Animals	3	F&F Online	[L2]	MATH 1180 -or- 1220 -or- 1260 and Instructor Permission (Recommend PHYS 2020 -or- 2220 -or- 3220)	S
3960	Special Topics in Biology	1-5			Instructor Consent. Topics vary	check schedule
4312	Human Dissection	1			BIOL 4313 -or- 5313 -or- 5315	F/S
4313	<i>Teaching Anatomy</i>	1-2			BIOL 4313 -or- 5313 -or- 5315	F/S
4314	Anatomy Colloquium	1			Instructor Consent.	
4316	Anatomy & Physiology Colloquium	1			BIOL 4313 -or- 5313	S
4900	<i>Teaching Experience</i>	1-2			<i>Instructor Consent. (Does not fulfill major reqmts, see advisor)</i>	ALL
4950	Directed Reading	1-3			Instructor Consent	ALL
4955	Individual Research	1-3		[L1-L2]	Instructor Consent	ALL
4965	Independent Professional Internship	1-3			Instructor Consent	ALL
4995	Biology Honors Research	1-4	Honors	[L1-L2]	Instructor Consent -and- Member of Honors College	ALL
4999	Honors Thesis/Project	3	Honors		Instructor Consent -and- Member of Honors College	ALL

BIOL	TITLE	CR	NOTES	LAB	PRE-REQUISITES/COMMENTS	SEM
5011	Mathematical Biology I (MATH 5110)	3			MATH 2250 -or- 2280	F
	Mathematical Biology II (MATH 5120)	3			BIOL 5011 -or- MATH 5110	S
5120	Gene Expression	3			BIOL 2020 -or- 2021	S
5140	Genome Biology	3			BIOL 2030	
5210	Cell Structure & Function	3			BIOL 2020 -or- 2021	S
5221	Human Evolutionary Genetics	4	QI	[L1]	MATH 1170 -or- 1210 -or- 1215 -or- 1250 -or- 1310 -or- 1311	S
5255	Prokaryotic Genetics	4		[L2]	Recommend BIOL 2020 -or- 2021 -and- BIOL 2030	S
5270	Microbial Ecosystems	3			BIOL 1620 -or- 2010	S
5275	Microbial Diversity, Genomics & Evolution	4		[L2]	BIOL 1620 -or- 2010 -and- 2030	F
5315	Advanced Human Anatomy	3		[L1]	BIOL 2325	S
5350	Ornithology	3			BIOL 1620 -or- 2010	F22
5355	Ornithology Field Lab	1		[L1]	*Co-req BIOL 5350	F22
5370	Mammalogy	3			BIOL 1620 -or- 2010	F
5425	Mycology	4		[L1]	BIOL 1620 -or- 2010	F23
5435	Plant Systematics	4		[L1]	Recommend BIOL 2020 -or- 2021 -and- 3410	F (even)
5440	Urban Ecology	3				S22
5455	Desert Ecology Field Course	3		[L1]	Instructor Consent.	
5460	Plant Ecology in a Changing World	3	hybrid		BIOL 1620 -or- 2010 -or- Instructor Consent	F
5471	Quantitative Models in Evolutionary Ecology	3	QI		MATH 1050 -or- IB5+ -and- *Co-Req: BIOL 3410	S23?
5480	Entomology	3	CEL		BIOL 1620 -or- 2010	F
5485	Entomology Lab	1		[L1]	*Co-req BIOL 5480	
5490	Ecosystem Ecology	3			CHEM 1220 -or- 1221	S (even)
5495	Biophysical Ecology	4		[L1]	MATH 1180 -or- 1220 -or- 1260 -or- 1320 (Recommend PHYS 2010)	S (odd)
5510	Genes, Development, and Evolution	3			BIOL 1210 -or- 1610 -or- AP4+ -or- IB5	F
5570	Ecol & Evolution Parasites & Pathogens	3	F&F		BIOL 1210 -or- 1610 -or- AP4+ -or- IB5 -and- BIOL 1620 -or- 2010 (Recommend BIOL 3410)	F
5575	Ecol & Evolution Parasites & Pathogens Lab	1		[L1]	*Co-req BIOL 5570	F
5720	Biology of Biotechnology	1	Half Sem			F
5800	Adv Topics in Biochem & Cell Biology	2	Half Sem		BIOL 2020 -or- 2021 -and- BIOL 3510 or CHEM 3510	Su
5910	Mathematical Models in Biology	3	QI		MATH 1180 -or- 1220 -or- 1260 -or- 1320	varies
5960	Advanced Special Topics in Biology	2			Special Topics: Warfare Among Microbes	F22
CHEM						
5750	Advanced Chemical Biology Lab	2	Half Sem	[L1]	CHEM 2320 -or-2321 -and- BIOL 3510 -or- CHEM 3510	S23?

**Info about electives:**

5xxx: The following courses CANNOT be counted as BIOL 5XXX electives: BIOL 5312, 5313, 5314, 5316, 5900

2xxx: A maximum of 6 CR of 2000-level BIOL courses may count towards Biology electives

Labs: FOUR BIOLOGY LABS totaling 5 LAB UNITS are required.

AT LEAST 21 CR BIOLOGY must be from the BIOLOGY DEPARTMENT (including 2 labs with 3 LAB UNITS).

Students may transfer in up to two transfer Biology labs.

**Info about Science and/or Biology Credits (72 CR SCIENCE and 36 CR BIOLOGY required for BIOLOGY BA/BS):**

**Biology:** All Biology Courses numbered  $\geq$  BIOL 1210, EXCEPT BIOL 1970, 3080, 3670, 4080, 4313, 4900, 5313, 5401, 5900

**Chemistry:** All Chemistry Courses numbered  $\geq$  1210 EXCEPT 2300 and 2308.

**Math:** MATH 1070, all Math Courses numbered  $\geq$  1170 EXCEPT 1900, 4090, 4095, and 4190.

**Physics:** PHYS 1050, 1060, 1095; All Physics Courses numbered  $\geq$  2010 EXCEPT 3160.