

## California State Polytechnic University, Pomona Degree Curriculum Sheet

Plan (Major) Biology Catalog Year 2013-2014 Name TGA\_
Subplan/Option Microbiology Minimum Units Required 180 Student ID GWT Satisfied Yes No

Required Core Courses		
Course		Units
Foundations of Biology	BIO 122/122L	3/2
Foundations of Biology	BIO 123/123L	3/2
Biometrics	BIO 211/211L	3/1
Genetics	BIO 303	4
Scientific Communication	BIO 490	1
	Total Units	19

Required Subplan/Option Core Courses		
Course		Units
Cell and Molecular Biology	BIO 310	4
Basic Microbiology	MIC 201/201L	3/1
Microbial Physiology	MIC 428/428L	4/1
	Total Units	13

Elective Subplan/Option Core Courses		
Course		Units
Select 4 out of 6 courses listed below		
Applied Microbiology	MIC 310/310L	(3/2)
Food Microbiology	MIC 320/320L	(3/1)
Medical Bacteriology	MIC 410/410L	(3/2)
Immunology-Serology	MIC 415/415L	(3/2)
Medical Mycology	MIC 425/425L	(3/2)
General Virology	MIC 430/430L	(3/2)
	Total Units	19-20

Required Support Courses		
Course		Units
Foundations of Biology (B2, B3)	BIO 121/121L	3/2
General Chemistry (B1, B3)	CHM 121/121L	3/1
General Chemistry	CHM 122/122L	3/1
General Chemistry	CHM 123/123L	3/1
Organic Chemistry	CHM 314/317L	3/1
Organic Chemistry	CHM 315	3
Organic Chemistry	CHM 316	3
Biochemistry	CHM 327/327L	3/1
Biochemistry	CHM 328/328L	3/1
Blochemistry	CHM 329/329L	3/1
Freshman English I (A2)	ENG 104	4
Freshman English II (A3)	ENG 105	4
Calculus for Life Sciences (B4)	MAT 120	4
College Physics	PHY 121/121L	3/1
College Physics	PHY 122/122L	3/1
College Physics	PHY 123/123L	3/1
Health, Nutrition & Integrated Being (E)	FN 203	4
or General Psychology (E)	PSY 201	(4)
or Mind, Brain & Behavior: Integrated View (E)	PSY 210	(4)
or Sci. and Mathematics: Freshmen Exp. I (E) -and-	SCI 101/101A	(1/1)
Sci. and Mathematics: Freshmen Exp. II (E)	SCI 102/102A	(1/1)
	Total Units	67

Elective Support Courses	
Course	Units
Approved Electives	
Approved elective courses are listed on the back of this curriculum sheet.	18-19
Total Units	18-1

General	Education Requirements	
Area		Units
Area A	Communication & Critical Thinking	12
1	Oral Communication	
2	Written Communication	
3	Critical Thinking	
Area B	Mathematics & Natural Sciences	16
Select a	t least one lab course from sub-area 1 or 2.	
1	Physical Science	
2	Biological Science	
3	Laboratory Activity	
4	Math/Quantitative Reasoning	
5	Science & Technology Synthesis	
Area C	Humanities	16
1	Visual and Performing Arts	
	Philosophy and Civilization	
3	Literature and Foreign Language	
4	Humanities Synthesis	
Area D	Social Sciences	20
1	U.S. History, Constitution, American Ideals	
2	History, Economics and Political Science	
3		
4	Social Science Synthesis	
Area E	Lifelong Understanding & Self Development	4
	Total Units	68

American Cultural Perspectives Requirement	
Refer to catalog for list of courses that satisfy this requirements. Course	4
may also satisfy major, minor, GE, or unrestricted elective requirements.	

The following required support courses should be taken to satisfy the indicated GE Requirements to achieve the minimum units to degree listed at the top of this sheet.

Courses that satisfy this requirement may also satisfy G.E. Area D1

American Institutions

Course		<b>GE</b> Area
Freshman English I	ENG 104	A2
Freshman English II	ENG 105	A3
General Chemistry	CHM 121/121L	B1, B3
Foundations of Biology	BIO 121/121L	B2, B3
Calculus for Life Sciences	MAT 120	B4
Health, Nutrition & Integrated Being	FN 203	Е
or General Psychology	PSY 201	(E)
or Mind, Brain & Behavior: Integrated View	PSY 210	(E)
or Sci. and Mathematics: Freshmen Exp. 1 and Exp. 2SCI 1	01/101A & SCI 102/102A	(E)

## APPROVED ELECTIVES FOR MICROBIOLOGY OPTION

Food Microbiology General Epidemiology MiC 330 Medical Bacteriology* MiC 410/410L Mic 330 Medical Bacteriology* MiC 410/410L Mic 415/415L Mic 415/415L Mic 415/415L Mic 425/425L Mic 430/430L Microbial Ecology MiC 430/430L Microbial Ecology MiC 435/435L Microbial Ecology Mic 435/435L Microbial Ecology Mic 445/436L Microbial Ecology Mic 444 Microbial Ecology Mic 444 Microbial Ecology Mic 444 Microbial Ecology Mic 445 Microbial Ecology Mic 445L Microbial Ecology Microbial Eco	APPROVED ELECTIVES FOR WICKOBIOLO		
General Epidemiology	Applied Microbiology	MIC 310/310L	3/2
Medical Bacteriology*         MIC 410/410L         3/2           Immunology-Serology*         MIC 415/415L         3/2           Medical Mycology**         MIC 425/425L         3/2           General Virology**         MIC 430/430L         3/2           Microbial Ecology         MIC 435/435L         2/2           Plant-Microbe Interactions         MIC 436/436L         2/2           Hematology         MIC 444         3           Hematology Lab         MIC 444L         1           Immunohematology Lab         MIC 445L         1           Immunochemtology Lab         BIO 200         2           Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 400         (2)           Human Physiology**         BIO 420         3           Advanced Genetics         BIO 420         3           Cellular Physiology         BIO 421         4           Cellular Physiology         BIO 4241         4           Internship in Biology         BIO 441         4           or Undergraduate Research         BIO 461         (4)           Con			
Immunology-Serology*         MIC 415/415L         3/2           Medical Mycology***         MIC 425/425L         3/2           General Virology**         MIC 430/430L         3/2           Microbial Ecology         MIC 435/435L         2/2           Plant-Microbe Interactions         MIC 436/436L         2/2           Hematology         MIC 4444         3           Hematology Lab         MIC 4445         3           Immunochemtology Lab         MIC 445L         1           Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students BIO 400         (2)           Human Physiology**         BIO 235/235L         4/1           Water Pollution Biology         BIO 420         3           Advanced Genetics         BIO 421         4           Cellular Physiology         BIO 428/428L         4/1           Internship in Biology         BIO 428/428L         4/1           Internship in Biology         BIO 450         4           Molecular Biology Techniques         BIO 450         4           Molecular Biology Techniques         BIO 451         3           Molecular Biology Techniques Lab         BIO 459/459L         3/2           <		MIC 330	4
Medical Mycology**         MIC 425/425L         3/2           General Virology**         MIC 430/430L         3/2           Microbial Ecology         MIC 435/435L         2/2           Plant-Microbe Interactions         MIC 436/436L         2/2           Hematology         MIC 4444         3           Hematology Lab         MIC 4445         3           Immunochemtology Lab         MIC 445L         1           Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           vor Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students         BIO 200         2           der Pollution Biology         BIO 420         3           Advanced Genetics         BIO 420         3           Advanced Genetics         BIO 420         4           Cellul			
General Virology**         MIC 430/430L         3/2           Microbial Ecology         MIC 435/435L         2/2           Plant-Microbe Interactions         MIC 436/436L         2/2           Hematology         MIC 444         3           Hematology Lab         MIC 4445         3           Immunochemtology Lab         MIC 445L         1           Special Study for Lower Division Students         BIO 200         2           or Special Study for Lower Division Students BIO 400         (2)           Human Physiology**         BIO 235/235L         4/1           Water Pollution Biology         BIO 420         3           Advanced Genetics         BIO 420         3           Cellular Physiology         BIO 421         4           Cellular Physiology         BIO 428/428L         4/1           Internship in Biology         BIO 441         4           or Undergraduate Research         BIO 461         (4)           Concepts of Mol Biology         BIO 450         4           Molecular Biology Techniques         BIO 451         3           Molecular Biology Techniques Lab         BIO 451         3           Bionformatics         BIO 465         3           Stem Cell Biology         <		MIC 415/415L	3/2
Microbial Ecology  Microbial Ecology  Plant-Microbe Interactions  Mic 436/436L  2/2  Hematology  Mic 4444  3  Hematology Lab  Immunohematology  Mic 4445  Immunochemtology Lab  Mic 445L  Immunochemtology Lab  Immunochemtology Lab  Special Study for Lower Division Students  BiO 200  or Special Study for Lower Division Students BiO 400  (2)  Human Physiology**  BiO 235/235L  4/1  Water Pollution Biology  BiO 420  3  Advanced Genetics  BiO 421  4  Cellular Physiology  BiO 428/428L  Internship in Biology  BiO 441  or Undergraduate Research  BiO 461  Concepts of Mol Biology  BiO 450  4  Molecular Biology Techniques  BiO 451  3  Molecular Biology Techniques BiO 451  3  Molecular Biology Techniques BiO 451  2  Bioinformatics  BiO 462  2  Undergraduate Research  BiO 462  2  Undergraduate Research  BiO 465  3  Stem Cell Biology Lab  BiO 465  3  Stem Cell Biology Lab  BiO 465  3  Stem Cell Biology Lab  BiO 465L  1  Anatomy**  ZOO 234/234L  3/2  Histology  ZOO 422/422L  2/3  Medical Parasitology**  ZOO 425/425L  3/2  Quantitative Analysis**  CHM 221/221L  2/2  Fundamentals of Physical Chemistry*  CHM 301/301A  3/1  Elements of Physical Chemistry*  CHM 311  3  Organic Chemistry Lab*  CHM 319L  1  Clinical Chemistry Lab*  CHM 331/331L  2/2  Food Safety and Current Issues  FST 325  4  Principles of HACCP		MIC 425/425L	3/2
Plant-Microbe Interactions	General Virology**	MIC 430/430L	3/2
Hematology Lab MIC 444L 1 Immunohematology Lab MIC 444L 1 Immunohematology MIC 445 3 Immunochemtology Lab MIC 445L 1 Special Study for Lower Division Students BIO 200 2 or Special Study for Lower Division Students BIO 200 (2) Human Physiology** BIO 225/235L 4/1 Water Pollution Biology BIO 420 3 Advanced Genetics BIO 421 4 Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 441 4 or Undergraduate Research BIO 461 (4) Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques BIO 451 2 Bioinformatics BIO 451L 2 Bioinformatics BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465 1 Stem Cell Biology BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L 3/2 Quantitative Analysis** CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry Lab* CHM 31/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	Microbial Ecology	MIC 435/435L	2/2
Hematology Lab  Immunohematology  Immunochemtology Lab  Immunochemtologo Lab  Immunochem	Plant-Microbe Interactions	MIC 436/436L	2/2
Immunohematology	Hematology	MIC 444	3
Immunochemtology Lab MIC 445L 1 Special Study for Lower Division Students BIO 200 2 or Special Study for Lower Division Students BIO 400 (2) Human Physiology** BIO 235/235L 4/1 Water Pollution Biology BIO 420 3 Advanced Genetics BIO 421 4 Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 448/428L 4/1 Internship in Biology BIO 450 4 or Undergraduate Research BIO 461 (4) Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques BIO 451 2 Bioinformatics BIO 451L 2 Bioinformatics BIO 469/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L 3/2 Quantitative Analysis** CHM 221/221L 2/2 Fundamentals of Physical Chemistry* CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 318L 1 Organic chemistry Lab* CHM 319L 1 Clinical Chemistry CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	Hematology Lab	MIC 444L	1
Special Study for Lower Division Students BIO 200 2 or Special Study for Lower Division Student: BIO 400 (2) Human Physiology** BIO 235/235L 4/1 Water Pollution Biology BIO 420 3 Advanced Genetics BIO 421 4 Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 448/428L 4/1 Internship in Biology BIO 441 4 or Undergraduate Research BIO 461 (4) Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques BIO 451L 2 Bioinformatics BIO 459/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465 3 Stem Cell Biology Lab BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L 3/2 Quantitative Analysis** CHM 221/221L 2/2 Fundamentals of Physical Chemistry* CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry Lab* CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1		MIC 445	3
or Special Study for Lower Division Student: BIO 400 (2) Human Physiology** BIO 235/235L 4/1 Water Pollution Biology BIO 420 3 Advanced Genetics BIO 421 4 Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 428/428L 4/1 Internship in Biology BIO 441 4 or Undergraduate Research BIO 461 (4) Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques BIO 451L 2 Bioinformatics BIO 459/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465 3 Stem Cell Biology Lab BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L 3/2 Quantitative Analysis*# CHM 221/221L 2/2 Fundamentals of Physical Chemistry# CHM 301/301A 3/1 Elements of Physical Chemistry# CHM 311 3 Organic Chemistry Lab# CHM 318L 1 Organic chemistry Lab# CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	Immunochemtology Lab	MIC 445L	1
Human Physiology** Water Pollution Biology Advanced Genetics BIO 420 3 Advanced Genetics BIO 421 4 Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 441 4 or Undergraduate Research BIO 461 Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques BIO 451 2 Bioinformatics BIO 459/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L Quantitative Analysis** CHM 221/221L 2/2 Fundamentals of Physical Chemistry* CHM 301/301A 3/1 Physical Chemistry CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	Special Study for Lower Division Students	BIO 200	2
Water Pollution Biology Advanced Genetics BIO 421 Cellular Physiology BIO 428/428L Internship in Biology BIO 4481 Or Undergraduate Research BIO 461 Concepts of Mol Biology BIO 450 Molecular Biology Techniques BIO 451 BIO 451 BIO 451 BIO 451 BIO 451L BIO 459/459L BIO 459/459L BIO 462 BIO 465 BIO 465 BIO 465 BIO 465 BIO 465L BIO 465L BIO 465L Anatomy** ZOO 234/234L BIO 422/422L BIO 425/425L CHM 221/221L CHM 301/301A BIO 467 BIO 467 BIO 467 BIO 468 BIO 465L BIO	or Special Study for Lower Division Student	: BIO 400	(2)
Advanced Genetics  Cellular Physiology BIO 428/428L 4/1 Internship in Biology BIO 441  or Undergraduate Research BIO 461 Concepts of Mol Biology BIO 450  Molecular Biology Techniques BIO 451  BIO 451  BIO 451L  BIO 451L  BIO 459/459L  J/2 Bioinformatics BIO 459/459L  BIO 462  Cell Biology BIO 465  Stem Cell Biology BIO 465L  Anatomy**  Anatomy**  Anatomy**  Anatomy**  Anatomy**  BIO 421/422L  Anatomy**  CHM 221/221L  Cya Fundamentals of Physical Chemistry*  CHM 301/301A  All Elements of Physical Chemistry*  CHM 311  Organic Chemistry Lab*  CHM 319L  CHM 31/331L  CHM 331/331L  CHM 31/331L  CHM 31/	Human Physiology**	BIO 235/235L	4/1
Cellular Physiology Internship in Biology Or Undergraduate Research Office Spirit Street Spirit Spir	Water Pollution Biology	BIO 420	3
Internship in Biology or Undergraduate Research BIO 461 Concepts of Mol Biology Molecular Biology Techniques BIO 451 BIO 451 BIO 451 BIO 451L BIO 451L BIO 459/459L BIO 459/459L BIO 462 BIO 465 BIO 465L BIO 465L Anatomy** ZOO 234/234L Biology BIO 422/422L Biology BIO 425/425L CHM 221/221L Biology BIO 465 BIO 465L BI	Advanced Genetics	BIO 421	4
or Undergraduate Research Concepts of Mol Biology BIO 450 4 Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques Lab BIO 451L 2 Bioinformatics BIO 459/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** Quantitative Analysis** CHM 221/221L Fundamentals of Physical Chemistry* CHM 301/301A S/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/3	Cellular Physiology	BIO 428/428L	4/1
Concepts of Mol Biology Molecular Biology Techniques BIO 451 3 Molecular Biology Techniques Lab BIO 451L 2 Bioinformatics BIO 459/459L 3/2 Undergraduate Research BIO 462 2 Stem Cell Biology BIO 465 3 Stem Cell Biology Lab Anatomy** ZOO 234/234L Histology Addical Parasitology** ZOO 422/422L Quantitative Analysis** CHM 221/221L Fundamentals of Physical Chemistry* CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP SIO 459/459L 3/2 CHM 311 3 CHM 311/331L 2/2 FST 423/423L 3/1	Internship in Biology	BIO 441	4
Molecular Biology Techniques  Molecular Biology Techniques Lab  BIO 451L  BIO 459/459L  3/2  Undergraduate Research  BIO 462  Stem Cell Biology  BIO 465  Stem Cell Biology Lab  Anatomy**  Anatomy**  Histology  Medical Parasitology**  Quantitative Analysis**  Fundamentals of Physical Chemistry*  Elements of Physical Chemistry*  CHM 304/304A  CHM 311  CHM 318L  Organic Chemistry Lab*  CHM 319L  CHM 331/331L  CHM 331/331L  CHM 331/331L  CHM 31/301A  CHM 331/331L	or Undergraduate Research	BIO 461	(4)
Molecular Biology Techniques Lab         BIO 451L         2           Bioinformatics         BIO 459/459L         3/2           Undergraduate Research         BIO 462         2           Stem Cell Biology         BIO 465         3           Stem Cell Biology Lab         BIO 465L         1           Anatomy**         ZOO 234/234L         3/2           Histology         ZOO 422/422L         2/3           Medical Parasitology**         ZOO 425/425L         3/2           Quantitative Analysis**         CHM 221/221L         2/2           Fundamentals of Physical Chemistry*         CHM 301/301A         3/1           Elements of Physical Chemistry*         CHM 304/304A         3/1           Physical Chemistry*         CHM 311         3           Organic Chemistry Lab*         CHM 318L         1           Organic chemistry Lab*         CHM 319L         1           Clinical Chemistry**         CHM 331/331L         2/2           Food Safety and Current Issues         FST 325         4           Principles of HACCP         FST 423/423L         3/1	Concepts of Mol Biology	BIO 450	4
Bioinformatics         BIO 459/459L         3/2           Undergraduate Research         BIO 462         2           Stem Cell Biology         BIO 465         3           Stem Cell Biology Lab         BIO 465L         1           Anatomy**         ZOO 234/234L         3/2           Histology         ZOO 422/422L         2/3           Medical Parasitology**         ZOO 425/425L         3/2           Quantitative Analysis***         CHM 221/221L         2/2           Fundamentals of Physical Chemistry*         CHM 301/301A         3/1           Elements of Physical Chemistry*         CHM 304/304A         3/1           Physical Chemistry*         CHM 311         3           Organic Chemistry Lab*         CHM 318L         1           Organic chemistry Lab*         CHM 319L         1           Clinical Chemistry**         CHM 331/331L         2/2           Food Safety and Current Issues         FST 325         4           Principles of HACCP         FST 423/423L         3/1	Molecular Biology Techniques	BIO 451	3
Undergraduate Research  Stem Cell Biology  BIO 465  3  Stem Cell Biology Lab  BIO 465L  1  Anatomy**  ZOO 234/234L  3/2  Histology  ZOO 422/422L  Z/3  Medical Parasitology**  Quantitative Analysis**  CHM 221/221L  Z/2  Fundamentals of Physical Chemistry*  CHM 301/301A  3/1  Elements of Physical Chemistry*  CHM 311  3  Organic Chemistry Lab*  CHM 319L  1  Clinical Chemistry**  CHM 331/331L  2/2  Food Safety and Current Issues  FST 325  4  Principles of HACCP			2
Stem Cell Biology Stem Cell Biology Lab BIO 465L 1 Anatomy** ZOO 234/234L 3/2 Histology ZOO 422/422L 2/3 Medical Parasitology** ZOO 425/425L 3/2 Quantitative Analysis** CHM 221/221L 2/2 Fundamentals of Physical Chemistry* CHM 301/301A 3/1 Elements of Physical Chemistry* CHM 311 3 Organic Chemistry* CHM 311 3 Organic Chemistry Lab* CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	Bioinformatics	BIO 459/459L	3/2
Stem Cell Biology Lab  Anatomy**  Anatomy**  Histology  Medical Parasitology**  Quantitative Analysis**  Fundamentals of Physical Chemistry*  Elements of Physical Chemistry*  CHM 301/301A  3/1  Elements of Physical Chemistry*  CHM 304/304A  3/1  Physical Chemistry*  CHM 311  3  Organic Chemistry Lab*  CHM 319L  1  Clinical Chemistry**  CHM 331/331L  2/2  Food Safety and Current Issues  FST 325  4  Principles of HACCP		BIO 462	
Anatomy**  Anatomy**  Histology  ZOO 422/422L  ZOO 422/422L  ZOO 425/425L  ZOO 425/425		BIO 465	3
Histology  Medical Parasitology**  Quantitative Analysis**  Fundamentals of Physical Chemistry*  Elements of Physical Chemistry*  CHM 301/301A  3/1  Elements of Physical Chemistry*  CHM 304/304A  3/1  Physical Chemistry*  CHM 311  3  Organic Chemistry Lab*  CHM 318L  1  Organic chemistry Lab*  CHM 319L  1  Clinical Chemistry**  CHM 331/331L  2/2  Food Safety and Current Issues  FST 325  4  Principles of HACCP  FST 423/423L  3/2			1
Medical Parasitology**  Quantitative Analysis**  CHM 221/221L 2/2  Fundamentals of Physical Chemistry*  Elements of Physical Chemistry*  CHM 301/301A 3/1  CHM 304/304A 3/1  Physical Chemistry*  CHM 311 3  Organic Chemistry Lab*  CHM 318L 1  Organic chemistry Lab*  CHM 319L 1  Clinical Chemistry**  CHM 331/331L 2/2  Food Safety and Current Issues  FST 325 4  Principles of HACCP  FST 423/423L 3/1	1	ZOO 234/234L	3/2
Quantitative Analysis**  CHM 221/221L 2/2  Fundamentals of Physical Chemistry*  CHM 301/301A 3/1  Elements of Physical Chemistry*  CHM 304/304A 3/1  Physical Chemistry*  CHM 311 3  Organic Chemistry Lab*  CHM 318L 1  Organic chemistry Lab*  CHM 319L 1  Clinical Chemistry**  CHM 331/331L 2/2  Food Safety and Current Issues  FST 325 4  Principles of HACCP  FST 423/423L 3/1			_, _
Fundamentals of Physical Chemistry# CHM 301/301A 3/1 Elements of Physical Chemistry# CHM 304/304A 3/1 Physical Chemistry# CHM 311 3 Organic Chemistry Lab# CHM 318L 1 Organic chemistry Lab# CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1		ZOO 425/425L	3/2
Elements of Physical Chemistry <sup>#</sup> CHM 304/304A 3/1 Physical Chemistry <sup>#</sup> CHM 311 3 Organic Chemistry Lab <sup>#</sup> CHM 318L 1 Organic chemistry Lab <sup>#</sup> CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1		CHM 221/221L	2/2
Physical Chemistry <sup>#</sup> CHM 311 3 Organic Chemistry Lab <sup>#</sup> CHM 318L 1 Organic chemistry Lab <sup>#</sup> CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	-	CHM 301/301A	3/1
Organic Chemistry Lab <sup>#</sup> CHM 318L 1 Organic chemistry Lab <sup>#</sup> CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	-	CHM 304/304A	3/1
Organic chemistry Lab <sup>#</sup> CHM 319L 1 Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	1 1	CHM 311	3
Clinical Chemistry** CHM 331/331L 2/2 Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	,	CHM 318L	1
Food Safety and Current Issues FST 325 4 Principles of HACCP FST 423/423L 3/1	,		1
Principles of HACCP FST 423/423L 3/1		CHM 331/331L	2/2
·	Food Safety and Current Issues	FST 325	=
	Principles of HACCP	FST 423/423L	3/1

Note: Courses not listed may be acceptable following consultation with advisor.

<sup>\*</sup> Required course for the admission to CLS programs
\*\* Recommended course for the admission to CLS programs

<sup>\*</sup> Required course for chemistry minor (CHM301/A or CHM304/A or CHM 311)