

Biochemistry/Biology Emphasis

2017 Fall Catalog and Beyond B.S. Sample Program Plans

Since the Biochemistry major is rigorous and highly sequential, summer session options are included to promote timely progress to degree while maintaining a manageable course load.

Math Placement is Intermediate Algebra (ARC 35)

	Fall	Winter	Spring	Summer
<u>Year One</u>	Intermediate Algebra 35 ⁽⁰⁾	Math 6A ⁽⁴⁾	Math 6B ⁽⁴⁾	Chemistry 1A, 1LA ⁽⁵⁾
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Chemistry 1B, 1LB ⁽⁵⁾
	Biochemistry 95 ⁽¹⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾		Breadth or Elective ⁽⁴⁾	
<u>Year Two</u>				
	Chemistry 1C, 1LC ⁽⁵⁾	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾
	Biology 5A, 5LA ⁽⁵⁾	Biology 5B ⁽⁴⁾	Biology 5C ⁽⁴⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾
<u>Year Three</u>	Math 7A ⁽⁴⁾	Math 7B ⁽⁴⁾	Math 46 ⁽⁴⁾	
		Biochemistry 15 ⁽³⁾		
	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	Statistics 100A ⁽⁵⁾
<u>Year Four</u>	Biology 102 ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	Biochemistry 162 ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾		
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
			Minimum units 180	

Math Placement is MATH 5

	Fall	Winter	Spring	Summer
<u>Year One</u>	Math 5 ⁽⁴⁾	Math 7A ⁽⁴⁾	Math 7B ⁽⁴⁾	Math 46 ⁽⁴⁾
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Biology 5A, 5LA ⁽⁵⁾	
	Biochemistry 95 ⁽¹⁾	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾
	Breadth or Elective ⁽⁴⁾		Breadth or Elective ⁽⁴⁾	
<u>Year Two</u>				
	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	
	Biology 5B ⁽⁴⁾	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
<u>Year Three</u>		Biochemistry 15 ⁽³⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾	
	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	Statistics 100A ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
<u>Year Four</u>	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	Breadth or Elective ⁽⁴⁾	
	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
			Minimum units 180	

Math Placement is MATH 6A

	Fall	Winter	Spring	Summer
<u>Year One</u>	Math 6A ⁽⁴⁾	Math 6B ⁽⁴⁾	Math 7A ⁽⁴⁾	
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Biology 5A, 5LA ⁽⁵⁾	
	CHEM 1W ⁽³⁾	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾
	Biochemistry 95 ⁽¹⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
<u>Year Two</u>	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾
	Biology 5B ⁽⁴⁾	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
	Math 7B ⁽⁴⁾	Biochemistry 15 ⁽³⁾	Math 46 ⁽⁴⁾	
<u>Year Three</u>	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	Statistics 100A ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
<u>Year Four</u>	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	Breadth or Elective ⁽⁴⁾	
	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
				Minimum units 180

Math Placement is MATH 7A

	Fall	Winter	Spring	Summer
<u>Year One</u>	Math 7A ⁽⁴⁾	Math 7B ⁽⁴⁾	Math 46 ⁽⁴⁾	
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾	
	BCH 95 ⁽¹⁾	Biology 5A, 5LA ⁽⁵⁾	Biology 5B ⁽⁴⁾	
<u>Year Two</u>	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	
	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
		Biochemistry 15 ⁽³⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾	
<u>Year Three</u>	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	Statistics 100A ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
<u>Year Four</u>	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	Breadth or Elective ⁽⁴⁾	
	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾			Minimum units 180

Math Placement is MATH 7B

	Fall	Winter	Spring	Summer
Year One	Math 7B ⁽⁴⁾	Math 46 ⁽⁴⁾		
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾	
	BCH 95 ⁽¹⁾	Biology 5A, 5LA ⁽⁵⁾	Biology 5B ⁽⁴⁾	
Year Two	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	
	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
		Biochemistry 15 ⁽³⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾	
Year Three	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	STAT 100A ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
Year Four	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	Breadth or Elective ⁽⁴⁾	
	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		Minimum units 180

NOTE

BCH 100 ENROLLMENT: Students who earn a grade lower than “B-“in BIOL 5A or CHEM 08A are strongly encouraged to complete BCH 100 during their second year of residence to better prepare themselves for BCH 110A, BCH 110B, and BCH 110C.

MATH-Please ensure that you follow the math pathway provided and work your way through the MATH 7 series.

STAT 100A-If you have received STAT048 credit, you will need to complete STAT100B in place of STAT100A to avoid duplication of credit.



Biochemistry/Biology Emphasis

2016 Fall Catalog and Prior B.S. Sample Program Plans

Since the Biochemistry major is rigorous and highly sequential, summer session options are included to promote timely progress to degree while maintaining a manageable course load.

Math Placement is Intermediate Algebra (ARC 35)

	Fall	Winter	Spring	Summer
Year One	Intermediate Algebra 35 ⁽⁰⁾	Math 6A ⁽⁴⁾	Math 6B ⁽⁴⁾	Chemistry 1A, 1LA ⁽⁵⁾
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Chemistry 1B, 1LB ⁽⁵⁾
	Biochemistry 95 ⁽¹⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾		Breadth or Elective ⁽⁴⁾	
Year Two	Breadth or Elective ⁽⁴⁾			
	Chemistry 1C, 1LC ⁽⁵⁾	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾
	Biology 5A, 5LA ⁽⁵⁾	Biology 5B ⁽⁴⁾	Biology 5C ⁽⁴⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾
Year Three	Math 9A ⁽⁴⁾	Math 9B ⁽⁴⁾	Math 46 ⁽⁴⁾	
	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	Statistics 100A ⁽⁵⁾
	Biology 102 ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	UD Biochemistry Elective ⁽⁴⁾	
Year Four	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	UD Biochemistry Elective ⁽⁴⁾	
	UD Biology Elective ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
			Minimum units 180	

Math Placement is MATH 5

	Fall	Winter	Spring	Summer
Year One	Math 5 ⁽⁴⁾	Math 9A ⁽⁴⁾	Math 9B ⁽⁴⁾	Math 46 ⁽⁴⁾
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Biology 5A, 5LA ⁽⁵⁾	
	Biochemistry 95 ⁽¹⁾	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾
	Breadth or Elective ⁽⁴⁾		Breadth or Elective ⁽⁴⁾	
Year Two				
	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	
	Biology 5B ⁽⁴⁾	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
Year Three		Biochemistry 15 ⁽³⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾	
	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	UD Biochemistry Elective ⁽⁴⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
Year Four	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	Statistics 100A ⁽⁵⁾	
	UD Biology Elective ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
			Minimum units 180	

Math Placement is MATH 6A

	Fall	Winter	Spring	Summer
<u>Year One</u>	Math 6A ₍₄₎	Math 6B ₍₄₎	Math 9A ₍₄₎	
	English 1A ₍₄₎	English 1B ₍₄₎	Biology 5A, 5LA ₍₅₎	
	CHEM 1W ₍₃₎	Chemistry 1A, 1LA ₍₅₎	Chemistry 1B, 1LB ₍₅₎	Chemistry 1C, 1LC ₍₅₎
	Biochemistry 95 ₍₁₎	Breadth or Elective ₍₄₎	Breadth or Elective ₍₄₎	
<u>Year Two</u>	Chemistry 8A/8LA ₍₄₎	Chemistry 8B/8LB ₍₄₎	Chemistry 8C/8LC ₍₄₎	*Biochemistry 100 <small>(Optional)</small> ₍₄₎
	Biology 5B ₍₄₎	Biology 5C ₍₄₎	Breadth or Elective ₍₄₎	
	Physics 2A, 2LA ₍₅₎	Physics 2B, 2LB ₍₅₎	Physics 2C, 2LC ₍₅₎	
	Math 9B ₍₄₎	Biochemistry 15 ₍₃₎	Math 46 ₍₄₎	
<u>Year Three</u>	Biochemistry 110A ₍₄₎	Biochemistry 110B ₍₄₎	Biochemistry 110C ₍₄₎	
	Biology 102 ₍₄₎	UD Biochemistry Elective ₍₄₎	UD Biochemistry Elective ₍₄₎	
	Breadth or Elective ₍₄₎	Breadth or Elective ₍₄₎	Breadth or Elective ₍₄₎	
<u>Year Four</u>	Chemistry 109 ₍₄₎	Biochemistry 184 ₍₄₎	UD Biology Elective ₍₄₎	
	English 1C or 1SC ₍₄₎	Biochemistry 162 ₍₅₎	Statistics 100A ₍₅₎	
	UD Biology Elective ₍₄₎	UD Biology Elective ₍₄₎	Breadth or Elective ₍₄₎	
				Minimum units 180

Math Placement is MATH 9A

	Fall	Winter	Spring	Summer
<u>Year One</u>	Math 9A ₍₄₎	Math 9B ₍₄₎	Math 46 ₍₄₎	
	English 1A ₍₄₎	English 1B ₍₄₎	Breadth or Elective ₍₄₎	
	Chemistry 1A, 1LA ₍₅₎	Chemistry 1B, 1LB ₍₅₎	Chemistry 1C, 1LC ₍₅₎	
	BCH 95 ₍₁₎	Biology 5A, 5LA ₍₅₎	Biology 5B ₍₄₎	
<u>Year Two</u>	Chemistry 8A/8LA ₍₄₎	Chemistry 8B/8LB ₍₄₎	Chemistry 8C/8LC ₍₄₎	
	Biology 5C ₍₄₎	Breadth or Elective ₍₄₎	Breadth or Elective ₍₄₎	
	Physics 2A, 2LA ₍₅₎	Physics 2B, 2LB ₍₅₎	Physics 2C, 2LC ₍₅₎	
		Biochemistry 15 ₍₃₎	*Biochemistry 100 <small>(Optional)</small> ₍₄₎	
<u>Year Three</u>	Biochemistry 110A ₍₄₎	Biochemistry 110B ₍₄₎	Biochemistry 110C ₍₄₎	
	Biology 102 ₍₄₎	Breadth or Elective ₍₄₎	UD Biochemistry Elective ₍₄₎	
	Breadth or Elective ₍₄₎	UD Biochemistry Elective ₍₄₎	Breadth or Elective ₍₄₎	
	Breadth or Elective ₍₄₎	Breadth or Elective ₍₄₎		
<u>Year Four</u>	Chemistry 109 ₍₄₎	Biochemistry 184 ₍₄₎	UD Biology Elective ₍₄₎	
	English 1C or 1SC ₍₄₎	Biochemistry 162 ₍₅₎	Statistics 100A ₍₅₎	
	UD Biology Elective ₍₄₎	UD Biology Elective ₍₄₎	Breadth or Elective ₍₄₎	
	Breadth or Elective ₍₄₎			Minimum units 180

Math Placement is MATH 9B

	Fall	Winter	Spring	Summer
Year One	Math 9B ⁽⁴⁾	Math 46 ⁽⁴⁾		
	English 1A ⁽⁴⁾	English 1B ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Chemistry 1A, 1LA ⁽⁵⁾	Chemistry 1B, 1LB ⁽⁵⁾	Chemistry 1C, 1LC ⁽⁵⁾	
	BCH 95 ⁽¹⁾	Biology 5A, 5LA ⁽⁵⁾	Biology 5B ⁽⁴⁾	
Year Two	Chemistry 8A/8LA ⁽⁴⁾	Chemistry 8B/8LB ⁽⁴⁾	Chemistry 8C/8LC ⁽⁴⁾	
	Biology 5C ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Physics 2A, 2LA ⁽⁵⁾	Physics 2B, 2LB ⁽⁵⁾	Physics 2C, 2LC ⁽⁵⁾	
		Biochemistry 15 ⁽³⁾	*Biochemistry 100 ^(Optional) ⁽⁴⁾	
Year Three	Biochemistry 110A ⁽⁴⁾	Biochemistry 110B ⁽⁴⁾	Biochemistry 110C ⁽⁴⁾	
	Biology 102 ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	UD Biochemistry Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	UD Biochemistry Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾		
Year Four	Chemistry 109 ⁽⁴⁾	Biochemistry 184 ⁽⁴⁾	UD Biology Elective ⁽⁴⁾	
	English 1C or 1SC ⁽⁴⁾	Biochemistry 162 ⁽⁵⁾	STAT 100A ⁽⁵⁾	
	UD Biology Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	Breadth or Elective ⁽⁴⁾	
	Breadth or Elective ⁽⁴⁾	UD Biology Elective ⁽⁴⁾		Minimum units 180

NOTE

BCH 100 ENROLLMENT: Students who earn a grade lower than “B-“in BIOL 5A or CHEM 08A are strongly encouraged to complete BCH 100 during their second year of residence to better prepare themselves for BCH 110A, BCH 110B, and BCH 110C.

ORGANIC CHEMISTRY-The CHEM 12 series has been renumbered to CHEM 08 series beginning 2017 fall.

MATH- A new MATH 7 series has been introduced for incoming 2017 freshman, **please do not enroll in this course as a continuing student.** Please continue on the current math pathway you are on.

STAT 100A-If you have received STAT048 credit, you will need to complete STAT100B in place of STAT100A to avoid duplication of credit.

