

# BIOCHEMISTRY AND MOLECULAR BIOLOGY, PHD

**Requirements for Students Matriculating in or before Academic Year 2024-2025.** Learn more about Graduate College Academic Regulation 7.0 (<http://catalog.okstate.edu/graduate-college/#70>).

**Total Hours:** 90 (Beyond the Bachelor's Degree)

Code	Title	Hours
<b>Required Core Courses</b>		
BIOC 5002	Research Compliance and Biochemistry Graduate Colloquium	2
BIOC 5112	Articulation of Research Logic	2
BIOC 5120	Biochemistry and Molecular Biology Graduate Research Colloquium <sup>1</sup>	1
BIOC 5753	Biochemical Principles	3
BIOC 5753	Biochemical Principles	3
BIOC 5853	Molecular and Integrative Metabolism	3
BIOC 5930	Advanced Biochemical Techniques	3
BIOC 6110	Seminar <sup>2</sup>	2
Three hours from:		3
BIOC 6740	Physical Biochemistry	
Plus 4 advanced (6000-level BIOC courses)		12
BIOC 6723	Signal Transduction	
BIOC 6733	Functional Genomics	
BIOC 6753	Epigenetics	
BIOC 6773	Protein Structure and Enzyme Function	
BIOC 6793	Plant Biochemistry	
<b>Hours Subtotal</b>		<b>34</b>
<b>Electives</b>		
Select 41 hours from the following:		41
BIOC 4723	Introduction to Bioinformatics	
BIOC 5102	Molecular Genetics	
BIOC 5824	Biochemical Laboratory Methods	
BIOC 6820	Selected Topics in Biochemistry (15 Hours Maximum)	
<b>Hours Subtotal</b>		<b>41</b>
<b>Required Research</b>		
BIOC 6000	Research	15
<b>Hours Subtotal</b>		<b>15</b>
<b>Total Hours</b>		<b>90</b>

<sup>1</sup>

Course to be taken 1 time each year prior to year of graduation.

<sup>2</sup>

Course to be taken 2 times at one credit each.

**Total Hours:** 60 (Beyond the Master's Degree)

Code	Title	Hours
Combined 45 hours of required core courses, other core courses, and electives.		45
<b>Required Core Courses</b>		

BIOC 5002	Research Compliance and Biochemistry Graduate Colloquium
BIOC 5112	Articulation of Research Logic
BIOC 5120	Biochemistry and Molecular Biology Graduate Research Colloquium <sup>1</sup>
<i>Other Core Courses Listed Below as Required by the Student's Advisor and Graduate Thesis Advisory Committee:</i>	
BIOC 5723	Introduction to Bioinformatics
BIOC 5753	Biochemical Principles
BIOC 5853	Molecular and Integrative Metabolism
BIOC 5930	Advanced Biochemical Techniques
BIOC 6110	Seminar
BIOC 6723	Signal Transduction
BIOC 6733	Functional Genomics
BIOC 6740	Physical Biochemistry
BIOC 6753	Epigenetics
BIOC 6773	Protein Structure and Enzyme Function
BIOC 6793	Plant Biochemistry
<b>Electives</b>	
Select 15 hours minimum from the following:	
BIOC 4723	Introduction to Bioinformatics
BIOC 5102	Molecular Genetics
BIOC 5824	Biochemical Laboratory Methods
BIOC 6820	Selected Topics in Biochemistry
<b>Hours Subtotal</b>	<b>45</b>
<b>Required Research</b>	
BIOC 6000	Research
<b>Hours Subtotal</b>	<b>15</b>
<b>Total Hours</b>	<b>60</b>

<sup>1</sup>

Course to be taken 1 time each year prior to year of graduation.

## Other Biochemistry and Molecular Biology, PhD, Requirements

- Pass PhD Preliminary Examination.
- Pass PhD Candidacy Examination: Present and pass the defense of a written research proposal.
- The student's Graduate Committee must approve the written thesis, and an oral defense on the content of the thesis must be passed

## Graduate College Doctor of Philosophy (PhD) Requirements

Learn more about Graduate College 2024-2025 Doctor of Philosophy (PhD) Degree Program Requirements (<http://catalog.okstate.edu/graduate-college/>). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.