

Student Learning Outcomes: MS Biochemistry

Graduates from the Biochemistry MS program will have demonstrated:

1. understanding of the key principles of biochemistry at an advanced level.
2. awareness of the major issues at the forefront of the discipline.
3. an in-depth understanding of the area of biochemistry chosen for research emphasis.
4. ability to design and carry out experiments (safely) and to interpret experimental data.
5. production of significant original research.
6. ability to assess primary papers critically.
7. ability to collaborate with other scientists, including people of diverse backgrounds
8. ability to present their work through written, oral, and visual presentations.
9. awareness of ethical issues in biochemical research and careers.

Alignment Matrix

	Courses	Research and Other Experience	Preliminary Exam	Thesis
Degree Program SLOs				
understanding of the key principles of biochemistry at an advanced level	A	X	n/a	X
awareness of the major issues at the forefront of the discipline	X	X	n/a	
in-depth understanding of the area of biochemistry chosen for research emphasis		X	n/a	X
ability to design and carry out experiments (safely) and to interpret experimental data		X	n/a	
production of significant original research		X	n/a	X
ability to assess primary papers critically		X	n/a	X
ability to collaborate with other scientists, including people of diverse backgrounds	X	X	n/a	
ability to present their work through written, oral, and visual presentations	A	X	n/a	X
awareness of ethical issues in biochemical research and careers	X	X	n/a	
University SLOs (Graduate Programs)				
Knowledge	X	X	n/a	X
Skills		X	n/a	X
Attitudes and Professional Conduct		X	n/a	X

Summary of program assessment since 2004

Two of the SLOs were used in the previous assessment of the program: #1 and #8. A direct measure of #1 SLO was the result of six examinations given throughout the Biochemistry 1 and 2 courses. An indirect measure of #1 SLO has been a successful thesis defense. For #8 SLO, a direct measure was the outcome of the audience surveys from the Biochemistry seminar course, in which graduate students present literature data. Indirect measures of #8 SLO were: a writing assignment in Biochemistry 1 course, an ability to publish the students results in a peer-reviewed journal, and a successful thesis defense.

Student Learning Outcomes: PhD Biochemistry

Graduates from the Biochemistry PhD program will have demonstrated:

1. understanding of the key principles of biochemistry at an advanced level.
2. awareness of the major issues at the forefront of the discipline.
3. an in-depth understanding of the area of biochemistry chosen for research emphasis.
4. ability to design and carry out experiments (safely) and to interpret experimental data.
5. production of substantial original research of significance and quality sufficient for publication.
6. ability to assess primary papers critically.
7. ability to collaborate with other scientists, including people of diverse backgrounds
8. ability to present their work through written, oral, and visual presentations, including an original research proposal.
9. awareness of ethical issues in biochemical research and careers.

Alignment Matrix

	Courses	Research and Other Experience	Preliminary Exam	Thesis
Degree Program SLOs				
understanding of the key principles of biochemistry at an advanced level	A	X	X	X
awareness of the major issues at the forefront of the discipline	X	X	X	
in-depth understanding of the area of biochemistry chosen for research emphasis		X		X
ability to design and carry out experiments (safely) and to interpret experimental data		X		
production of substantial original research of significance and quality sufficient of publication		X		X
ability to assess primary papers critically		X	X	X
ability to collaborate with other scientists, including people of diverse backgrounds	X	X		
ability to present their work through written, oral, and visual presentations, including an original research proposal	A	X	X	X
awareness of ethical issues in biochemical research and careers	X	X		
University SLOs (Graduate Programs)				
Knowledge	X	X	X	X
Skills		X	X	X
Attitudes and Professional Conduct		X		X

Summary of program assessment since 2004

Two of the SLOs were used in the previous assessment of the program: #1 and #8. A direct measure of #1 SLO was the result of six examinations given throughout the Biochemistry 1 and 2 courses. An indirect measure of #1 SLO has been a successful thesis defense. For #8 SLO, a direct measure was the outcome of the audience surveys from the Biochemistry seminar course, in which graduate students present literature data. Indirect measures of #8 SLO were: a writing assignment in Biochemistry 1 course, an ability to publish the students results in a peer-reviewed journal, and a successful thesis defense.