

# PHARMACEUTICAL SCIENCES

PH-PS-MS

ACM:

Faculty:

## Student Learning Outcomes

SLO Count: 8

Name	Content
SLO 1	1: Think critically and solve complex scientific problems.
SLO 2	2: Read, analyze, and explain research presented in publications and seminars and synthesize scientific presentations and publications.
SLO 3	3: Conduct high-quality research (i.e., publishable in peer-reviewed journals).
SLO 4	4: Communicate research results effectively verbally and in writing.
SLO 5	5: Demonstrate competency in teaching scientific principles to professional and graduate students.
SLO 6	6: Make rational, ethical, and responsible decisions in conducting research.
SLO 7	7: Demonstrate sensitivity and tolerance of cultural, societal and economic diversity.
SLO 8	8: Self-assess learning needs to design, implement, and evaluate strategies to promote intellectual growth and continued competence in discipline.

Does this program have specialized accreditation?

No

## Assessment Activities and Results

Assessment Activity Count: 3

Assessment Activity: Thesis: The student provides a thesis to the thes

Please provide a brief name for this assessment activity.	Thesis: The student provides a thesis to the thesis advisory committee describing original research performed by the student with input from their adviser/mentor.
Describe the assessment method used to assess the learning outcome(s). Provide enough detail so that we understand the nature of the project.	The thesis is provided to the committee members prior to the defense. During the defense the student presents the research and must be prepared to answer questions about any aspect of the project. The student defends the thesis to the committee, members of the department and outside guests. The committee members meet after the presentation to determine if the student was successful. The defense is an opportunity for the student to demonstrate that they have performed high quality research, that they have the ability to think critically, read analyze and explain data, make rational decisions, and have continued to stay current with the recent literature in their area of study.
What were the findings from this assessment?	By the time the student reaches this stage, the adviser, the advisory committee, and the director of graduate studies, have made sure that the candidate is ready for a successful defense. No student has reached this stage in recent years and been unsuccessful in defending their thesis. These results suggest that our checks and balances are working appropriately. Several students did successfully defend who had not yet had a peer-reviewed publication accepted.

<p>How are you using or planning to use the findings from this assessment for program improvement? Where applicable, give specific examples of changes you are making to the program as a result of your findings.</p>	<p>We continue to emphasize the need for students to publish their research results as peer-reviewed posters and preferably in peer-reviewed manuscripts. Publication improves the likelihood of success for student following graduation.</p>
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Assessment Activity: Yearly Progress Report.

<p>Please provide a brief name for this assessment activity.</p>	<p>Yearly Progress Report.</p>
<p>Describe the assessment method used to assess the learning outcome(s). Provide enough detail so that we understand the nature of the project.</p>	<p>A progress report is filled out by all thesis-based MS graduate students. The report includes courses taken and grades received, research project ongoing and progress made. An important means of assessing progress of a project is how poster or oral presentations were made at local, national and/or international meetings, and the number of manuscripts published. The progress report is submitted to the Graduate Office along with a letter from the student's adviser outlining their view of the student's progress.</p>
<p>What were the findings from this assessment?</p>	<p>In all cases, progress being made by MS students was appropriate. No problems were identified except the need to publish more papers in peer-reviewed journals.</p>
<p>How are you using or planning to use the findings from this assessment for program improvement? Where applicable, give specific examples of changes you are making to the program as a result of your findings.</p>	<p>The director of graduate studies is recommending that all thesis-based MS students have at least one peer-reviewed publication prior to graduation. Several poster presentations will also be recommended. This productivity will be an important factor during job searches following graduation. This requirement will require department approval at a department meeting in 2018.</p>

Assessment Activity: Assessment method 3: Presentations of research re

Please provide a brief name for this assessment activity.	Assessment method 3: Presentations of research results in seminars, posters, manuscript and theses.
Describe the assessment method used to assess the learning outcome(s). Provide enough detail so that we understand the nature of the project.	Presentations of research results (seminars, poster and/or manuscripts and thesis defense). Each thesis-based MS student is required to give at least one department seminar and to publish at least 1 poster (preferably a manuscript) prior to graduation. In addition, each student is required to defend their thesis work in front of their committee and the department. The seminar and poster presentation serves as a preview of progress being made en route to the thesis defense (a manuscript would confirm significant progress has been made). A rubric is used by the faculty and other students in attendance to give feedback for the presentation. The faculty member coordinating the seminar course meets with students to discuss issues that arise following the feedback. The defense is an opportunity for the student to demonstrate that they have performed high quality research, that they have the ability to think critically, read analyze and explain data, make rationale decisions, and have continued to stay current with the recent literature in their area of study.
What were the findings from this assessment?	All more senior students (2nd or 3rd year) had given presentations that were evaluated by the faculty and students present. Each student was judged as having done at least an acceptable job. They had also presented at least 1 poster and were preparing to defend their theses. Several students struggled with the oral presentations initially but with help from their mentor and from the seminar coordinator were able to improve and do better on future seminars/presentations. All students successfully defended their theses.

<p>How are you using or planning to use the findings from this assessment for program improvement? Where applicable, give specific examples of changes you are making to the program as a result of your findings.</p>	<p>We will continue to encourage students to publish in peer-reviewed journals prior to graduation. Some international students struggle with the language, especially during their first year. We have begun to recommend a summer intensive English language program offered at main campus to international students. Students who have taken the program the summer before classes start report that it was helpful.</p>
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## Planned Assessment

## Direct Assessment Activities

corresponding ID	Assessment Name	corresponding ID	Assessment Name
1	Portfolio	2	Practicum, Internship, Other Field Placement
3	Clinical Evaluations	4	Student Work in Capstone WITH Rubric
5	Student Work in Capstone WITHOUT Rubric	6	Student Work WITH Rubric in 1 or More Courses
7	Student Work WITHOUT Rubric in 1 or More Courses	8	Final Paper, Thesis, or Dissertation
9	National or Board Exam	10	Local Test or Exam
11	Juried Show, Performance, or Critique	12	Oral Presentation

13	Design Project	14	Group Project or Demonstration
15	Journal	16	Other

SLO	None	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SLO 1							X	X	X		X		X				
SLO 2									X		X		X				
SLO 3									X								
SLO 4									X				X				
SLO 5													X				
SLO 6									X		X						
SLO 7													X				
SLO 8									X								

Indirect Assessment Activities

SLO	None	Current Student Survey	Graduating Student Survey	Alumni Survey	Employer Survey	Focus Groups	SFFs	Other
SLO 1		X	X					
SLO 2	X							
SLO 3	X							

SLO 4	X							
SLO 5	X							
SLO 6	X							
SLO 7	X							
SLO 8			X					