

## Program Assessment Plan for Neuroscience

<b>Program Mission</b>	The interdisciplinary Bachelor of Science program in Neuroscience contributes to this goal by providing undergraduates with educational opportunities across several scientific disciplines relevant to the fields of Neuroscience: Biology, Chemistry, Physics, and Psychology. Students gain foundational knowledge relating to the nervous system and the biological foundations of behavior. The major provides an educational experience that can lead either to graduate training within those fields related to neuroscience or to professional training in a range of health professions from pharmacy to medicine.
<b>Curriculum</b>	The curriculum provides more than one opportunity for students to meet the Program Learning Objectives
<b>Key Courses And Assignments</b>	BIOL141-142 and 141L & 142L, CHEM112 & 113 and 112L & 113L, PSYC110 and PSYC210: basic competence in fields of biology, chemistry, and psychology assessed by exams, writing assignments and oral presentations. NEUR110 & 111: introduction to careers in Neur

### Program Learning Outcomes to be Assessed

PLO	1). Demonstrate basic competence in the fields of biology, chemistry, and psychology.	ILOs to which the PLOs map	1,2,3
Year:	Year 2 AY 2015-16		
Is the evidence Direct or Indirect	Direct from student sc		
Where in the program does the evidence reside?	First year courses in biology, chemistry, and psychology. NEUR231 Behavioral Neuroscience, NEUR330 Research Methods in Neuroscience		
What tools are necessary to collect evidence? (Rubrics, Portfolio, Embedded Exam Questions etc.)	Standardized exams, grades from first year		
Benchmarks	Not at this time. Will develop a set of standards.		
ListOfSources	Use a standardized test at beginning of sophomore year to score biological, chemical, and psychological content gained by first year. Use grades from first year courses.		

**Program Learning Outcomes to be Assessed**

PLO	2).Demonstrate mastery of advanced topics in the field of neuroscience.	ILOs to which the PLOs map	1,2,3
Year:	Year 2 AY 2015-16		
Is the evidence Direct or Indirect	Direct evidence from s		
Where in the program does the evidence reside?	NEUR231 Behavioral Neuroscience,NEUR339 Pyschopharmacology, NEUR348 Functional Neuroanatomy, NEUR358 Cellular, Molecular Neurobiology, NEUR493 Undergraduate research in neuroscience		
What tools are necessary to collect evidence? (Rubics, Portfolio,Embedded Exam Questions etc.)	Embedded exam questions		
Benchmarks	Not at this time they will be developed.		
ListOfSources	Review scores on embedded questions in exams		

**Program Learning Outcomes to be Assessed**

PLO	3).Critically evaluate empirical data.	ILOs to which the PLOs map	1,3
Year:	Year 2 AY 2015-16		
Is the evidence Direct or Indirect	Direct form student w		
Where in the program does the evidence reside?	NEUR330 Research Methods in Neuroscience NEUR493: Undergraduate research in Neuroscience		
What tools are necessary to collect evidence? (Rubics, Portfolio,Embedded Exam Questions etc.)	Rubrics to score final write up of research p		
Benchmarks	Standard will be style of peer review article explaining research.		
ListOfSources	Review of research project and lab notebook, laboratory reports,poster presentation, research paper.		

**Program Learning Outcomes to be Assessed**

PLO	4).Demonstrate mastery of the scientific method.	ILOs to which the PLOs map	1,3
Year:	Year 1 Spring 2015		
Is the evidence Direct or Indirect	Direct evidence from fi		
Where in the program does the evidence reside?	NEUR330 Research Methods in Neuroscience, NEUR493 Undergraduate research in Neuroscience		
What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)	Rubrics are necessary to account for items		
Benchmarks	Standards will be based on peer reviewed articles in journals and posters presented at major sci		
ListOfSources	Use a rubric to review independent research projects by each student. Review student lab notebooks using a rubric for information to be included. Research paper		

**Program Learning Outcomes to be Assessed**

PLO	5).Effectively communicate neuroscience information in writing.	ILOs to which the PLOs map	1,2,3
Year:	Year 1 Spring 2015		
Is the evidence Direct or Indirect	Direct, from student o		
Where in the program does the evidence reside?	NEUR330 Neuroscience Methods in Research, NEUR358 Cellular & Molecular Neurobiology, NEUR493 Undergraduate research		
What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)	Rubric for reviewing writing. Written assign		
Benchmarks	Using standards of writing for science used for articles in Journal of Neuroscience and also rubric		
ListOfSources	Use a rubric to score samples of student writing.		

**Program Learning Outcomes to be Assessed**

PLO	6).Effectively communicate neuroscience information orally.	ILOs to which the PLOs map	1,2,3
Year:	Year 1 Spring 2015		
Is the evidence Direct or Indirect	Direct from student w		
Where in the program does the evidence reside?	NEUR111 Introduction to Scientific Literature; NEUR330 Research Methods in Neuroscience; NEUR339 Psychopharmacology; NEUR358 Cellular & Molecular Neurobiology; NEUR493 Undergraduate research in Neuroscience		
What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)	Rubrics to score presentations.		
Benchmarks	Poster presentations to the public at a major scientific conference will be the standard for stude		
ListOfSources	Use a rubric to score oral presentations and poster presentations.		

**Program Learning Outcomes to be Assessed**

PLO	7).Promote the field of neuroscience to the local community and targeting K-12.	ILOs to which the PLOs map	1,4
Year:	Year 3 AY 2016-17		
Is the evidence Direct or Indirect	Direct		
Where in the program does the evidence reside?	Student involvement with Kids Judge! Neuroscience and NEUR231 Behavioral Neuroscience, NEPA Brain Bee, outreach programs with Scranton neuroscience Society (student club)		
What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)	Rubric		
Benchmarks	Not at this time, will need to be developed		
ListOfSources	Rubric to score student involvement, stuent project presented to kids, Registration List of high school students involved.		

Program Learning Outcomes to be Assessed

PLO	8).Apply their degrees to their career paths.	ILOs to which the PLOs map	1,3,4
Year:	Year 3 AY 2016-17		
Is the evidence Direct or Indirect	Indirect		
Where in the program does the evidence reside?	NEUR110 Lab Rotations, NEUR111 Introduction to Scientific Literature, Survey of graduates		
What tools are necessary to collect evidence? (Rubrics, Portfolio,Embedded Exam Questions etc.)	Surveys		
Benchmarks	Not at this time will need to develop.		
ListOfSources	Surveys at end of four years of school and two years post leaving school		