B. S. BIOLOGY DEGREE PROGRAM STUDENT LEARNING REPORT

(Form Rev. August 2012)

ROGERS STATE UNIVERSITY

Department of Biology
For Academic Year 2012-2013

Effectively assessing a degree program should address a number of factors:

1) Valid student learning outcomes should be developed;
2) Valid assessment measures should be used, consistent with the standards of professional practice;
3) There should be evidence that assessment data are being used by faculty to make necessary instructional or assessment changes; and
4) There should be evidence that instructional or assessment changes are being implemented to improve student learning.

Relationship of B. S. Biology Degree Program (or Major) Learning Outcomes to Departmental and University Missions

Name of Degree, including Level and Major: B.S. Biology

1) A. Insert and clearly state the school, department and degree program missions in the spaces below.

University Mission	School Mission	Department Mission	Degree Program Mission
Our mission is to ensure students develop the skills and knowledge required to achieve professional and personal goals in dynamic local and global communities.	Central to the mission of the School is the preparation of students to achieve professional and personal goals in their respective disciplines and to enable their success in dynamic local and global communities. Three departments comprise this School, the Departments of Biology, Health Science, and Math and Physical Science. These departments pledge to deliver existing and newly developed programs that meet student demands, and to be responsive to the evolving culture of academia in general and the sciences in particular.	The mission of the Department of Biology at Rogers State University is to support students in their pursuit of knowledge in biology and life science.	Under the Bachelor of Science in Biology, there are two emphases: the Medical/Molecular emphasis and the Environmental Conservation emphasis. The four-year program seeks to develop a biologist well- grounded in either area of emphasis. The student integrates mathematical and physical science concepts into biology. The student uses the scientific method as well as evaluates others' use of this method of inquiry. He/she writes and presents scientific papers and reports. The degree is augmented with individual research and internships for successful postgraduate and professional careers.

B. Insert and clearly state school purposes, department purposes and degree program outcomes in the spaces below, making sure to align the degree program outcomes with their appropriate school and department purposes, and these outcomes and purposes with their appropriate university commitments.

University Commitments	School Purposes	Department Purposes	Degree Program Outcomes
To provide quality associate, baccalaureate, and graduate degree opportunities and educational experiences which foster student excellence in oral and written communications, scientific reasoning and critical and creative thinking.	The **Curriculum** utilizes academically rigorous methodologies delivered by a quality faculty who possess a broad base of content knowledge and promote the acquisition, application and discussion of current subject matter. The School uses *effective instructional techniques, empirical and evidenced-based inquiry, innovative technology, and a* variety of learning environments for the purpose of enhancing student learning.	To increase the student's critical thinking and reasoning abilities. To prepare a student to matriculate into a four-year degree program in math or science related fields or graduate.	1. To demonstrate an understanding of the fundamental processes of life. 2. To apply scientific method and interpret current technology and research techniques relating to the biological sciences.
To promote an atmosphere of academic and intellectual freedom and respect for diverse expression in an environment of physical safety that is supportive of teaching and learning.	The School promotes a challenging, positive, and inquisitive Collegial environment of high ethical standards and of frequent interactions between faculty and students to foster independent thought and the collegial exchange of ideas.	To apply good laboratory practice to minimize/eliminate potential laboratory hazards.	3. Demonstrate knowledge of safety protocols
To provide a general liberal arts education that supports specialized academic program sand prepares students for lifelong learning and service in a diverse society.	The School recognizes the importance of scientific literacy in general education and its contribution to the liberal studies curriculum of the university.	To increase the student's understanding and appreciation of the biological world, and his/her ability to apply this understanding to his/her personal and professional life. To increase the student's ability to interpret and understand his/her world.	4. To be adequately prepared for transition into a productive professional career. 1. To demonstrate an understanding of the fundamental processes of life. **(This outcome meets two different departmental purposes).**
To provide students with a diverse, innovative faculty dedicated to excellence in teaching, scholarly pursuits and continuous improvement of programs.			
To provide university-wide student			

University Commitments	School Purposes	Department Purposes	Degree Program Outcomes
services, activities and resources that complement academic programs.			
To support and strengthen student, faculty and administrative structures that promote shared governance of the institution.			
To promote and encourage student, faculty, staff and community interaction in a positive academic climate that creates opportunities for cultural, intellectual and personal enrichment for the University and the communities it serves.	Our commitment to Service enhances the public welfare and economic development potential of our region by cultivating strategic partnerships with health and science-related industries, secondary and higher education institutions, and through active participation and leadership in civic and professional organizations by our faculty and students. These collaborative efforts are based on the belief that through shared relationships, service reinforces and strengthens learning, and learning reinforces and strengthens service. An emphasis of service encourages social awareness and responsibility among faculty and students.	To increase the student's awareness of the benefits of incorporation of technology into science studies. To serve as a resource for the community; utilizing the expertise of the faculty.	2. To apply scientific method and interpret current technology and research techniques relating to the biological sciences **(This outcome meets two different departmental purposes).**

Discussion of Instructional Changes Resulting from B.S. Biology Degree Program Student Learning Report

2) List and discuss all instructional or assessment changes proposed in last year's Degree Program Student Learning Report, whether implemented or not. Any other changes or assessment activities from last year, but not mentioned in last year's report, should be discussed here as well. Emphasis should be placed on student learning and considerations such as course improvements, the assessment process, and the budget. If no changes were planned or implemented, simply state "No changes were planned or implemented." See Example #1 at the end of this form.

Instructional or Assessment Changes	Changes Implemented (Y/N)	Impact of Changes on B. S. Biology Degree Program Curriculum or Budget
Assessment changes proposed 1. The program outcome "to provide a safe lab environment" was reworded to better reflect an outcome instead of restating the	Y	This outcome was not measured again for 2012-2013 because we were still developing an appropriate outcome and performance standard that would reflect a

Instructional or Assessment Changes	Changes Implemented (Y/N)	Impact of Changes on B. S. Biology Degree Program Curriculum or Budget
departmental purpose.		truer outcome. Our new outcome now reads "Students will demonstrate knowledge of safety protocols." The performance standard for this outcome will be: 100% of the students in Biol. 1144L will participate and pass the practical laboratory safety exercise. This will be a pass/fail exercise.
Instructional changes that have occurred in 2011-2012 but not mentioned in this report (2012-2013):		
a. Addition of two new electives (Forestry & GIS) for Environmental Conservation are being added to the curriculum	Y	a. The two new electives added to the Environmental Conservation option are now part of the curriculum and are in the new catalog.
b. Addition of special topic course (parasitology) for medical/molecular option	Y	b. The medical/molecular option has needed more electives to complete a student's education, the offering of parasitology as a special topic course was designed to partially meet these needs.
c. hired one new faculty member in med/molecular	Y	c. During the last school year (2011-2012) the biology department has lost two faculty members in the medical/molecular the option. The department has replaced both faculty members.
d. use of student lab fees to purchase significant new equipment	Y	d. The additional money collected from lab fees has continued the department to purchase new equipment to advancement our technology within the program (for 2012-2013 we were allocated $47,200).
Instructional changes that have occurred because of the last year peer review.		
a. Since the ETS exam was not given in the two previous years, it was given to all the seniors in research methods II	Y	a. The ETS exam was given to a total of 40 seniors during Fall 12 and Spring 13.
b. ETS results were broken down into four sub-scores and these four sub-scores are now being analyzed as well as the overall mean scores.	Y	b. Analyzing the four sub-scores will now allow the department to better assess those areas that do not meet our expectations.

3) The University Assessment Committee in its Degree Program Peer Review Report provided feedback and recommendations for improvement in assessment. List or accurately summarize all feedback and recommendations from the committee, and state whether they were implemented or will be implemented at a future date. If they were not or will not be implemented, please explain why. If no changes were recommended last year, simply state "No changes were recommended."

Feedback and Recommended Changes from the University Assessment Committee	Suggestions Implemented (Y/N)	Changes that Were or Will Be Implemented, or Rationale for Changes that Were Not Implemented
Under Degree Program Mission, the words "well founded" probably should be "well grounded."	Y	The words "well founded" have been replaced with "well grounded"
One of the department purposes to "prepare a student to matriculate into a four-year degree program in math . . ."	N	We left that departmental purpose in this learning report/plan because it is one of the Department of Biology purposes. The department will be considering revising these departmental purposes this upcoming year.
Two changes were listed as having been proposed in last year's Student Learning Report; however, they do not appear in last year's SLR Section 5, nor or they discussed in any of the conclusions in Part 4 of last year's SLR.		
No. 1: A "safety agreement" does not reflect student learning. A student learning outcome (what the student will know, be able to do, or be able to demonstrate) could be a quiz, paper, essay, etc.	Y	No. 1---this learning outcome has been changed. The outcome will be that students will participate in an exercise to demonstrate their knowledge of safety, and 100 % of the students in General Cellular Biology (BIOL 1144L) will participate and receive a passing grade (this will be a pass/fail exercise).
No. 2: It states that the program outcome about promoting a positive learning environment has been dropped; yet it still appears as Degree Program Outcome 4 on p. 2.	Y	No. 2. This oversight has been corrected and the outcome dropped.
In some instances there was no feedback regarding peer review comments from the 2010-11 Peer Review Report: • Question for Review 3 • Question for Review 4 (D) • Question for Review 4 (E) In other instances some feedback was provided but some was also missing: • Question for Review 4 (F)		The committee made an effort to respond to all the comments. However, some of the comments were difficult to interpret and date back several years. We did not intentionally 'not respond', however, there were a lot of comments and we answered as well as we could.

Feedback and Recommended Changes from the University Assessment Committee	Suggestions Implemented (Y/N)	Changes that Were or Will Be Implemented, or Rationale for Changes that Were Not Implemented
• Question for Review 4 (G)		
1a: It is difficult to know what the survey is measuring. The Results section refers to students' "writings"; the Conclusions section refers to students' "making progress" and "completing their projects." On the one hand the measure sounds like a survey the students complete, yet on the other hand it ("projects") sounds like something instructors are evaluating.	Response:	1a. We agree with the reviewer's comments. To this point, we have changed our performance standard to the following: "1.a. On the survey, students will rank themselves as a 4 or greater (Likert scale from 1 to 5) on their understanding of the fundamental processes of life."
1b and 1c: This is the second consecutive year that the ETS measure has not been administered	Response:	1b. Yes, we know it was not administered in 2011-2012. It was administered to all seniors in 2012-2013.
Among all the assessment measures, there are two program outcomes that utilize direct measures, and all of them are summative, i.e., they pertain to one senior-level capstone-type course (BIOL 4801). No formative measures are included.	Response:	We would accept suggestions on possible formative measures to use. There are few courses that all Biology majors take in common, and the capstone courses are the ONLY courses that all our graduates must take at RSU.
2b: Should refer only to written paper, not paper and presentation.	Y	2b.The oversight was corrected.
3c: Should refer only to the presentation, not the paper and the presentation.	Y	3c.The oversight was corrected.
5a and 5b: Apparently these are both surveys. But the difference between them is not clear.	Response:	5a. and 5b. We have added additional information on 5a and 5b. They are different. The first one is an actual survey of our graduates asking them to report back how well the program prepared them for their postgraduate experience. The second, 5b, is an organized reporting by the faculty as we learn of our graduates' activities.
1a: The performance standard for outcome 1 is unclear because the measure is unclear.	Y	We changed the performance outcome to clarify this.
1c: It is not clear what area the sub scores test.	Y	There are four sub-scores of the ETS Biology Field Test (SS1-Cell Biology, SS2-Molecular Biology and Genetics, SS3-Organismal Biology and SS4-Population Biology/Evolution/Ecology).
3: As indicated before, there is no performance measure associated with the third outcome. Receiving training and signing a safety	Y	Please note changes above.

Feedback and Recommended Changes from the University Assessment Committee	Suggestions Implemented (Y/N)	Changes that Were or Will Be Implemented, or Rationale for Changes that Were Not Implemented
agreement do not reflect learning. Some measure should be developed to make this outcome more meaningful.		
There are several areas in this section that need clarification: 1b and 1c: How will the random sampling be accomplished? With such a small N how many must be "sampled" in order to achieve reliable results?	Response:	When a sampling of students took the ETS, the names of students were divided into two groups representing Medical/ Molecular emphasis and Environmental Conservation, and names were drawn to randomize the sample. Our current practice is to have all students in the Research Methods II course take the ETS. There is a cost for each student who takes the test, and when there is a high enrollment in this course it becomes prohibitively costly. If this occurs, we will return to random selection of students.
5a. What size is the potential pool or universe of Biology majors who have graduated in the last five years? Does eight represent a third? How random was the survey and what was the rate of response?	Y	With better tracking we now know the number of graduates and can report that number in relation to those that were given the post-graduate survey (see section 4). We have rectified this oversight. The 2011-2012 report just looked at those students that had graduated during that year.
5b. When is "after graduation"? Immediately after graduation? A year after graduation?	Response:	In terms of our assessment and the difficulty in tracking graduates, "after graduation" is a rather broad term meaning 1-5yrs post-graduation.
5a. and 5b. Collection methodology is provided but not sample size. The numbers given in Column F should have gone here.	Y	This oversight has been corrected.
5a. It is not clear if eight respondents represent the "random third" of the graduates of the past five years. How many surveys were sent? How many were received?	Y	Last year's report pertained to just the 22 graduates for that year of which 8 (36%) where surveyed.
5b. Twenty-two represents what percentage of the universe? Nothing is reported in this column about how many are in graduate school. Last year's SLR contained a compelling breakdown of graduates' positions. It reported 2-3 years of data. Why weren't this year's new data incorporated with last years, which was much more detailed and included those in graduate schools?	Response	On the last report we reported just the information that we had on those graduates for 2011-2012 due to a transition in the assessment committee chair for the BS in Biology. We have now corrected this and are now reporting on the information we have on our graduates since 2003 and have aligned the date so that the results are more precise and well-defined. This year report 2012-2013 will now be broken down as in previous years (2010-2011).
1a, 2a, 2b, and 2c. All of these results, which comprise all of the direct measures, reveal that 90-100 percent of the students met or	Response:	The department will discuss this. Members of the committee feel that this is an acceptable outcome, since this represents students who are ready to graduate and

Feedback and Recommended Changes from the University Assessment Committee	Suggestions Implemented (Y/N)	Changes that Were or Will Be Implemented, or Rationale for Changes that Were Not Implemented
exceeded the standards. Has there been any discussion about raising the standards?		enter the workforce or graduate school.
The conclusions are spare and unrevealing. None of them discuss how the measures or the results lead to inferences or deductions about (a) the strengths and weaknesses of student performance or (b) the strengths and weaknesses of the measures or standards.	Response:	We have expanded on our conclusions in response to this year's ETS score and are in the process of updating our survey to more closely reflect our evolving assessments.
How many questions are included in the post-graduate survey? A wealth of data can be learned from such surveys, yet only one question ("fully met my expectations") is cited as a program measure. More information needs to be provided about what "past graduates" means. Knowing who is being sampled, how they are sampled, and the response rate are required in order to obtain greater "accuracy" (reliability).	Response Y	Our post-graduate survey contains 21 questions of which 4 of the questions do not directly pertain to the biology program. With adequate responses these question be further utilized to assess the biology program. For "Post-graduate" definition see above. The biology department in the process of trying to increase our sample size with the post-graduate survey and are hoping to increase our reliability with added responses. The post-graduate survey is going to be sent out to all graduates (that we have current email or mailing addresses for) within the last 5 years. As with any survey the number of returned responses cannot be determined until "after the fact."
No.		Question 6 was in regards to best practices. This was interpreted as a suggestion, not a requirement. Best practices are currently being considered by the department.
The satisfaction survey and the Mastery of Program Survey (as best we understand it) are indirect measures. The grades on written and oral presentations are direct measures (as long as they are guided by a rubric or blueprints about what the tests assess).	Y	The question pertaining to assessment measures (#7b and c) was misinterpreted by the biology assessment committee in asking the number of direct and indirect assessment measures. This has been corrected.

Analysis of Evidence of B. S. Biology Degree Program Student Learning

4) For all degree program outcomes, describe the assessment measures and performance standards used, as well as the sampling methods and sample sizes. For each measure, document the results of the activity measured and draw any relevant conclusions related to student performance. Finally, indicate whether the performance standard was met or not. See Example #2 at the end of this form.

A. Degree Program Outcomes	B. Assessment Measures	C. Performance Standards	D. Sampling Methods	E. Sample Size (N)	F. Results	G. Conclusions	H. Performance Standards Met (Y/N)
1. To demonstrate an understanding of the fundamental processes of life.	1a. Survey in BIOL 4801, Biology Research Methods II, covering mastery of program objective1.	1a. On the survey, students will rank themselves as a 4 or greater (Likert scale from 1 to 5) on their understanding of the fundamental processes of life.	1a. All students in the BIOL 4801 classes in Fall 2011 & Spring 2012	1a. 32	**1a.** Questions were based on a Likert scale from 1 to 5 with 1 being very poor and 5 being excellent. Of the 15 students surveyed 4 ranked themselves as 5 (excellent) and 10 ranked themselves as 4 (Good), and 1 ranked themselves as a 3 (average) on mastery of program objective 2. The sample size is small because the Fall 2012 survey was not administered due to a change in department head.	1a. The students are demonstrating mastery by making progress or completing their projects. This mastery was demonstrated in their responses to the survey.	1a. Y
	1b. Education Testing Service Major Field Assessment Exam for Biology in BIOL 4801, Biology Research Methods II.	1b. The program mean will be within 5 percent of the normative mean on Major Fields Test in biology.	1b. A random sampling of students in BIOL 4801.	1b. 40	1b. The mean for the ETS was 146 the national mean is 153. We were within 5% of the national mean.	1b. The students are demonstrating mastery by scoring within 5% of the national mean on the ETS exam.	1b. Y
	1c. Education Testing Service Major Field Assessment Exam for Biology in BIOL 4801, Biology Research Methods II.	1c. Three of the four sub-scores for the exam will be within 5 percent of their normative means. The fourth sub-score will be within 10	1c. A random sampling of students in BIOL 4801.	1c. 40	1c.Students scored within 5% of national mean for sub-score(SS)1-Cell Biology and 1pt below 5% of national mean for SS3-Organismal Biology & SS4-Population Biology, Evolution, and Ecology. For SS2-Molecular Biology and Genetics, the students scored	1c. The ETS exam was administered to over 33,000 students from more than 900 schools including nine Oklahoma regional schools. Given the diversity of our degree programs (Medical/Molecular and Environmental Conservation),	1c. N

		percent of the mean.			3pts below 5% of the national mean.	our student performed well. As expect, overall Medical/Molecular students score better on the SS1-Cell Biology and SS2-Molecular Biology and Genetics sub-scores while Environmental/Conservational students performed better on SS3- Organismal Biology and SS4-Population Biology, Evolution, and Ecology sub-scores. Given the program emphasis of Medical/Molecular on SS1 and SS2 and the program emphasis of Environment/Conservation on SS3 and SS4, cumulative scores across all subsets may be reflective of program emphasis.	
2. To apply scientific method and interpret current technology and research techniques relating to the biological sciences.	Survey in BIOL 4801, Biology Research Methods II, covering mastery of program objective 2. 2b. BIOL-4801,	70% of students will indicate 80% mastery of program objective 2. 2b. 80% of	2a. All students in the BIOL 4801 classes in Fall 2012 & Spring 2013 2b. All students	2a. 15 2b. 40	2a. Questions were based on a Likert scale from 1 to 5 with 1 being very poor and 5 being excellent. Of the 15 students surveyed 4 ranked themselves as 5 (excellent) and 10 ranked themselves as 4 (Good), and 1 ranked themselves as a 3 (average) on mastery of program objective 2. The sample size is small because the Fall 2012 survey was not administered due to a change in department head. 2b. 100 % of students	2a. 93% indicated mastery of program objective 2. Our goal of 70% was reached. 2b. The mentoring process	2a. Y 2b. Y

	Biology Research Methods II, research project paper of respective research findings.	students will earn a grade of "B" on the written paper for BIOL 4801. Grade assigned by instructor and mentor.	in BIOL 4801 Fall 2012 and Spring 2013.		completing Research Methods II in Fall and Spring 2012/2013 earned a grade of B or higher on the written paper	between faculty mentor and mentee is providing sufficient feedback to students as they prepare the final version of their papers.	
	2c. BIOL-4801, Biology Research Methods II, oral presentation of respective research findings.	2c. 80% of students will earn a grade of "B" on the presentation for BIOL 4801. Grade assigned by Biology (Biology to replace 'science') Faculty.	2c. All students in BIOL 4801 Fall 2012 and Spring 2013.	2c. 40	2c. 100 % of students completing Research Methods II in Fall and Spring 2012/2013 earned a grade of B or higher on the research presentation	2c. Students are able to present their research findings in a comprehensive manner, as a combined result of efforts by the students and faculty mentors.	2c. Y
3. Demonstrate knowledge of safety protocols.	A new lab section over lab safety has been added to Gen Biol. 1144	100% of the students in Biol. 1144L will participate and pass the practical laboratory safety exercise. This will be a pass/fail exercise.	All students in majors biology course (Bio. 1144L) will be sampled in Fall 2013/Spring 2014	0	No Report	No data was collected for Fall 2012 or Spring 2013 because of developing a true outcome	3. No
4. To be adequately prepared for transition into a productive	4a.The Biology Faculty will administer a post-graduate survey by e-mail or phone asking about	4a. Of the surveys returned, 70% of the past graduates will	4a.The Biology Faculty will administer a post-graduate survey by e-	4a. 34	4a. Due to a change in the Department Head position, post-graduate surveys were not mailed out in May 2013 as originally planned. 34 surveys	4a Even though we have received positive feedback from the 5 respondents, the return of only 5 responses out of 34 is not large enough to	4a. No

professional career.	their transition from RSU into post-graduate endeavors (job, internship, graduate school, professional school).	indicate a score of 4 on a scale of 1 to 5 (5 being high) for their transitions from RSU in post-graduate endeavors (job, internship, graduate school, professional school).	mail or phone asking about their transition from RSU into post-graduate endeavors (job, internship, graduate school, professional school).		were mailed in the Fall 2013 semester. Of the 34 mailed (2 where returned with error messages), 5 people responded. The survey yielded an average likert score of 4 for "The BS program met my expectations". It yielded an average likert score of 4 for "I would recommend this program to some else" and an average likert score of 4.2 for "The biology program prepared me for graduate school or employment."	be statistically significant and makes it difficult if not impossible to assess the effectiveness of our program. To correct this oversight the survey will be repeated in May 2014.	
	4b.The Biology Faculty will collect information about students' activities after graduation.	4b. 80% of reporting students are working or continuing education in biology. 50% are in graduate or professional school.	4b.The Biology Faculty will collect information about students' activities after graduation.	4b.88	4b. Since May 2003 we have had 139 students graduate with BS in Biology. Of these 139 students when have been able to track 88 graduates. These 88 graduates have been placed in the following; 18 Medical School 9 Pharmacy 5 Grad school 4 PA school 22 wildlife related jobs 9 School teachers 14 Science related industry/hospitals/labs 5 Veterinary school 2 Dentist school	4b.This data suggest that 64% of our graduates are either working in the professional field of biology or are in graduate or professional school. This does not meet our expected values of 80% but may be more of reflection in the number of graduate we are able to follow verses those that have moved on to other locations and are no longer in contact. We are trying to increase the number of post-graduate sampled (sending out more surveys) to hopefully increase the number of respondents.	4b. No

5) State any proposed instructional or assessment changes to be implemented for the next academic year. They should be based on conclusions reported in Section 4 (above) or on informal activities, such as faculty meetings and discussions, conferences, pilot projects, textbook adoption, new course proposals, curriculum modifications, etc. Explain the rationale for these changes and how they will impact student

learning and other considerations, such as curriculum, degree plan, assessment process, or budget. If no changes are planned, simply state "No changes are planned." [See EXAMPLE #1 at the end of this form.]

Degree Program Outcomes	Instructional or Assessment Changes	Rationale for Changes	Impact of Planned Changes on Student Learning and Other Considerations.
1. To demonstrate an understanding of the fundamental processes of life.	1b. Results from the ETS exam are being analyzed by subscores.	Looking at the sub-scores of the ETS exam better reflects a more detail analysis of our overall programs strengths and weaknesses. Sub-scores will also allow us to separate out our two program emphases to better analyze their individual strengths and weaknesses.	Will allow the department to better assess the two emphasis and to determine where changes need to be made within the curriculum.
3. Demonstrate knowledge of safety protocols.	The department has developed a measurable outcome that will allow for better assessment.	The previous outcome was not clearly stated or measurable. This new outcome and performance standard will correct this oversight	All laboratory sciences are concerned with proper safety protocols and assessment exercise will permit the department to assess whether or not students are learning proper laboratory safety techniques.

6) In order to benefit the broader university community, please describe one or more practices the department believes has potential for pedagogical benefit. This is similar to what is known as a "best practice," which is a strategy, method or technology that in the professor's or department's experience improves classroom instruction and student learning. There should be preliminary reason to believe the practice can be replicated and generalized to other faculty and educational settings. Please include a department contact person, a brief description, and its potential or demonstrated educational impact. If there are none to report, put "none" in the Best Practice column.

Best Practice	Contact Person	Description	Educational Impact

7) Assessment Measures:

A. How many different assessment measures were used? 6

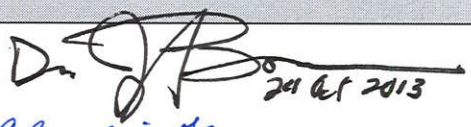
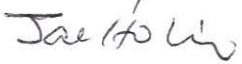
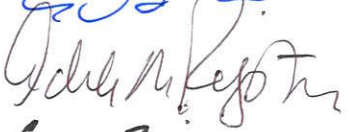
B. List the direct measures (see rubric): Written and Oral Presentations in Research Methods II; ETS Results; Written Laboratory exercise on laboratory safety

C. List the indirect measures (see rubric): Senior Survey (Mastery of Program Survey) and Post-Graduate Survey

Documentation of Faculty Assessment

8) A. How many full time faculty (regardless of department affiliation) teach in the program? 9 biology faculty; 2 chemistry faculty

B. Provide the names and signatures of all faculty members who contributed to this report and indicate their respective roles:

Faculty Members	Roles in the Assessment Process (e.g., collect data, analyze data, prepare report, review report, etc.)	Signatures
Dr. Jerry Bowen	Collected data, analyzed data, prepared report, & Reviewed report	
Mrs. Claudia Glass	Reviewed report	
Mr. Don Glass	Collected data, Analyzed data, Prepared report, & reviewed report	
Dr. Sue Katz	Collected data, Analyzed data, Prepared report, & reviewed report	
Dr. Jae-Ho Kim	Reviewed report	
Dr. Eric Lee	Collected data, Analyzed data, Prepared report, & reviewed report	
Dr. Adele Register	Reviewed report	
Dr. Craig Zimmerman	Reviewed report	
Dr. Jin Seo	Reviewed report	

9) Reviewed by:

Titles	Names	Signatures	Date
Department Head	Dr. Jerry Bowen		26 Oct 2013
Dean	Dr. Keith Martin		10/29/2013

RUBRIC FOR DEGREE PROGRAM STUDENT LEARNING REPORT

1) A. Are the school, department and program missions clearly stated?

4 = Exemplary	3 = Established	2 = Developing	1 = Undeveloped
The program, department, and school missions are clearly stated.	The program, department, and school missions are stated, yet exhibit some deficiency (e.g., are partial or brief).	The program, department, and school missions are incomplete and exhibit some deficiency (e.g., are partial or brief).	The program, department, and school missions are not stated.

B. Are degree program outcomes and department purposes aligned with university commitments and school purposes?

4 = Exemplary	3 = Established	2 = Developing	1 = Undeveloped
Degree program outcomes and department purposes are aligned with university commitments and school purposes.	Degree program outcomes and department purposes demonstrate some alignment with university commitments and school purposes.	Degree program outcomes and department purposes demonstrate limited alignment with university commitment and school purposes.	Degree program outcomes and department purposes do not demonstrate alignment with university commitment and school purposes.

2) How well did the department incorporate instructional or assessment changes from last year's report or from other assessment activities?

4 = Exemplary	3 = Established	2 = Developing	1 = Undeveloped
All planned changes were listed, whether they were implemented or not, and their impact on curriculum or program budget was discussed thoroughly.	Most planned changes were listed, and their status or impact on curriculum or program budget was discussed.	Some planned changes were listed, and their status or impact on curriculum or program budget was not clearly discussed.	No planned changes were listed, and their status or impact on curriculum or program budget was not discussed.