Unit Missions

BPS Mission Statement

Mission statement
The Division of Biological and Physical Sciences serves as the academic unit at Delta State University that is staffed and funded for the purposes of teaching and advising, conducting scholarly activities, and providing public/professional service work in the natural sciences.

Related Items
There are no related items.

Learning Outcomes

BS-BIO 01: Communication Skills

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Develop written communication skills appropriate for the sciences

Data Collection (Evidence)
Background: Students working on the BS in Biology degree at DSU are required to take three 300-level core courses covering the fundamental topics of cell biology, ecology, and genetics. As part of the final grade, each of these courses requires students to submit written assignments that assess substantive understanding of biological concepts and that are presented in a logical style.

1. From BIO 300 - Cell Biology
   Students enrolled in this course are required to complete a technical paper on an instructor-approved topic in cell biology, following a format used by many biological journals. 75 percent of students will receive a C grade or better on the paper.
2. From BIO 301 - Ecology
   Students enrolled in this course must submit a research paper on an instructor-approved topic in ecology, following the formatting guidelines used by most ecology journals. 75 percent of students will receive a C grade or better on the paper.
3. From BIO 328 - Genetics
   Students enrolled in this course are required to submit specific format laboratory reports written using data collected during the course, and analysis of data, about the outcomes of Drosophila crosses. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-BIO 02: The Scientific Method

Start: 7/1/2013
End: 6/30/2014

Learning Outcome

Demonstrate proficiency with the scientific method through answering questions using the scientific method

Data Collection (Evidence)
Background: Students working on the BS in Biology degree at DSU are required to take three 300-level core courses covering the fundamental topics of cell biology, ecology, and genetics. As part of the final grade, each of these courses requires students to submit laboratory reports in which they document laboratory exercises requiring the steps of the scientific method: generating hypotheses, performing experiments, analyzing data, and deriving conclusions.

1. From BIO 300 - Cell Biology
   Students enrolled in this course are required to complete laboratory reports documenting use of the scientific method related to cell-related experiments. 75 percent of students will receive a C grade or better grade averaged over all lab reports.
2. From BIO 301 - Ecology
   Students enrolled in this course must submit weekly lab reports identify the components of the scientific method as related to ecological exercises. 75 percent of students will receive a C grade or better grade averaged over all lab reports.
3. From BIO 328 - Genetics
   Students enrolled in this course are required to submit specific format laboratory reports written using data collected during the course, and analysis of data, about the outcomes of Drosophila crosses. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-BIO 03: Fundamental Concepts

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Demonstrate knowledge of fundamental concepts in biology in broad categories such as cellular biology, genetics, and ecology

Data Collection (Evidence)
Background: Students working on the BS in Biology degree at DSU are required to take three 300-level core courses covering the fundamental topics of cell biology, ecology, and genetics. Because these core courses expand on basic biological concepts which students' first experience in introductory biology and are required for all

biology majors, success in these courses is used as the assessment of content considered necessary for all biology majors.

1. From BIO 300 - Cell Biology

Students enrolled in this course are required to learn the details of principles relating to the structure and function of cells. 75 percent of students will receive a grade of C or better on the final exam, which comprehensively tests content covered in the course.

2. From BIO 301 - Ecology

Students enrolled in this course are required to learn the details of ecological principles, developing an understanding of the interactions between organisms and their environment. 75 percent of students will receive a grade of 65% or better on the final exam, which comprehensively tests content covered in the course.

3. From BIO 328 - Genetics

Students enrolled in this course are required to learn the details of genetics including classical (Mendelian) genetics, molecular genetics, and population genetics. 75 percent of students will receive a grade of 65% or better on the final exam, which comprehensively tests content covered in the course.

Results of Evaluation

Use of Evaluation Results

Related Items

There are no related items.

BS-BIO 04: Data Assessment

Start: 7/1/2013
End: 6/30/2014

Learning Outcome

Demonstrate the skill to assess and analyze data with objectivity

Data Collection (Evidence)

Background: Students working on the BS in Biology degree at DSU are required to take three 300-level core courses covering the fundamental topics of cell biology, ecology, and genetics. Because these core courses expand on basic biological concepts which students first experience in introductory biology and are required for all biology majors, success in these courses is used as the assessment of content considered necessary for all biology majors.

1. From BIO 300 - Cell Biology

Students enrolled in this course are required to complete laboratory reports which

include describing how data was collected and how conclusions were drawn from analysis of the data. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

2. From BIO 301 - Ecology

Students enrolled in this course are required to complete laboratory reports which include describing how data was collected and forming conclusions from analysis of the data. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

3. From BIO 328 - Genetics

Students enrolled in this course are required to complete laboratory reports which include describing how data was collected and how conclusions were drawn from analysis of the data. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-CHE 01: Literature Search

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Conduct literature search

Data Collection (Evidence)

1. The assessment tool is a laboratory assignment in searching an electronic database of journals.
2. The library search is graded as a laboratory assignment.
3. If at least 70% of students score 70% on the assignment, success is demonstrated.

Results of Evaluation

7 out of 9 students scored above 70% on the lab report. This represents 78% of the class, therefore success is demonstrated.

Use of Evaluation Results
The assessment tool is under review for possible ways to make improvements.

Related Items
There are no related items.

BS-CHE 02: Laboratory Report

Start: 7/1/2013
End: 6/30/2014

Learning Outcome

Write technical laboratory report

Data Collection (Evidence)

1. The assessment tool is the student's cumulative lab report grade for CHE 311.
2. The data is collected by separating the student's lab grade from the final course average as per the syllabus.
3. An average lab report score is calculated for all labs submitted for grading. If at least 75% of students score > 75% on the lab report score, success is demonstrated.

Results of Evaluation
3 of 4 students scored above 75% on the lab report portion. This represents 75% of the class, success is demonstrated.

Use of Evaluation Results
For smaller class sizes in the future, a PowerPoint presentation requirement may be added to give students practice in presenting technical data before audiences.

Related Items
There are no related items.

BS-CHE 03: Chemical Calculations

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Demonstrate broad knowledge base through critical thinking in chemical calculations

Data Collection (Evidence)

1. The assessment tool is Chapter Test 1, which is composed primarily of chemical calculations.
2. The data is collected by separating the students' Test 1 grade. Dropped or missed grades count as a score less than 70%.
3. If at least 50% of students score greater than or equal to 70% on Chapter Test 1, success is demonstrated.

Results of Evaluation
3 of 4 students scored at or above 70% on Chapter Test 1. This represented 75% of the class, success is demonstrated.

Use of Evaluation Results
Additional homework problems similar to the test problems will be assigned. We will also try more student work during class time on the white board using similar calculations.

Related Items
There are no related items.

BS-CHE 04: Best Safety Practices

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Demonstrate best safety practices of experimental techniques

Data Collection (Evidence)

1. After instruction on a safety unit, students were given a laboratory manual generated quiz.
2. These questions on general safety and safety while performing laboratory techniques were analyzed by grading.
3. If at least 70% of the students score 70% on the quiz, success is demonstrated.
4. A laboratory safety question will be tracked on the 2nd semester laboratory final examination. If at least 70% of the students get the correct answer, success is achieved.
5. A laboratory technique question was also probed on the 2nd semester laboratory final examination. If at least 70% of the students get the correct answer, success is achieved.

Results of Evaluation

1. 33 out of 33 scored a 70% or higher on the safety unit quiz. Success is achieved.
2. 33 out of 33 or 100% of the students answered four safety questions at 70% efficiency on the laboratory final exam. Success is achieved.

3. 39% of the students answered the laboratory technique question at 70% efficiency. Success is not achieved.

Use of Evaluation Results

1. More laboratory questions were tracked on the 2nd semester final laboratory examination.
2. The technique question on the 2nd semester laboratory final examination seems adequate to test students' knowledge. New organic chemistry laboratory procedures were tried but not all procedures had the recrystallization technique. More emphasis should be placed on recrystallization.

Related Items
There are no related items.

BS-CHE 05: Chemistry and Technology

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Utilize computational chemistry and instrumentation technology

Data Collection (Evidence)

1. The assessment tool is a laboratory assignment using the computational chemistry program, SPARTAN.
2. This assessment is graded the same as other laboratory assignments.
3. If at least 70% of the students score 70% on the assignment, success is demonstrated.

Results of Evaluation
89.0% of the class scored 70% or higher, which indicates success.

Use of Evaluation Results
A review of the assignment is being conducted and possibly some modest changes to the assessment tool will be made. Because of the small class size, student performance varies from year to year.

Related Items
There are no related items.

BS-CHE 06: Chemical Reactivity

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Demonstrate a broad knowledge base through critical thinking for problem solving in chemical reactivity

Data Collection (Evidence)

1. The 1991 Organic Chemistry Final Examination is a comprehensive two semester exam produced by the American Chemical Society Examination Institute.
2. It was administered as a pretest at the beginning of the 2nd semester and used as a final exam at the end of term.
3. If 65% of the students score higher on the post- test than on the pretest, success is achieved.

Results of Evaluation

1. 90% of students made improvements on pre and post- test scores. Success is achieved. Only 30 out of 32 students had complete data for analysis.
2. Only 53% of the students scored a 65 or higher on the final examination.

Use of Evaluation Results
Students were highly encouraged to work problems online through Mastering Chemistry. Mastering Chemistry provides resources such as homework feedback, videos, and tutorials to help students achieve a better level of success. However, Mastering Chemistry only provided limited success. The learning curve to use the software and support in allowing java to run was a major obstacle. Homework for grading or quizzes should be assigned to help struggling students stay current with topics.

It should be noted that the 1994 and not the 1991 Organic Chemistry Final Examination was given as was in the 2011-2012 academic year.

Related Items
There are no related items.

BS-ENV 01: Written Communication Skills

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate technical writing ability that will permit communication with the scientific community about environmental science.

Data Collection (Evidence)

Background: All students working on the BS in Environmental Science degree at DSU are required to take two core courses covering fundamental topics related to the field of environmental science. As part of the final grade, each of these courses requires students to submit written assignments that assess substantive understanding of environmental science concepts and that are presented in a logical style. The Biology course is currently used to measure the achievement of the outcome.

From BIO 301 - Ecology
Students enrolled in this course must submit a research paper on an instructor-approved topic in ecology, following the formatting guidelines used by most ecology journals. The outcome is achieved if 75% of the students receive a grade of C or better on the research paper.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-ENV 02: The Scientific Method

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will conduct biological investigations using the scientific method.

Data Collection (Evidence)
Background: All students working on the BS in Environmental Science degree at DSU are required to take ecology, covering fundamental topics related to the field of environmental science and generating hypotheses, performing experiments, analyzing data, and deriving conclusions.

From BIO 301 - Ecology
Students enrolled in this course must submit weekly lab reports identify the components of the scientific method as related to ecological exercises. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-ENV 03: Fundamental Concepts

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate knowledge of fundamental concepts in environmental science in broad categories such as ecology and geospatial analysis.

Data Collection (Evidence)
Background: All students working on the BS in Environmental Science degree at DSU are required to take ecology, covering fundamental topics related to the field of environmental science. Because this core course expands on basic concepts which students' first experience in introductory biology and are required for all environmental science majors, success in these courses is used as the assessment of content considered necessary for all environmental science majors.

From BIO 301 - Ecology
Students enrolled in this course are required to learn the details of ecological principles, developing an understanding of the interactions between organisms and their environment. 75 percent of students will receive a grade of 65% or better on the final exam, which comprehensively tests content covered in the course.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

BS-ENV 04: Data Analysis

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate the skill to assess and analyze data with objectivity.

Data Collection (Evidence)
Background: All students working on the BS in Environmental Science degree at DSU are required to take ecology, covering fundamental topics related to the field of environmental science. This course requires students to perform experiments, collect data, analyze those data, and draw conclusions based on their analysis.

From BIO 301 - Ecology
Students enrolled in this course are required to complete laboratory reports which include describing how data was collected and forming conclusions from analysis of the data. 75 percent of students will receive a C grade or better grade averaged over all lab reports.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MAS-GIT 01: GIT Application and Methodology

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will learn fundamental knowledge and applications of GIT, and needed skills related to communicate spatial information and methodological techniques.

Data Collection (Evidence)
1. From REM 616 - Remote Sensing
All MAS students are required to master the basic principles on which remote sensing is based, and how aerial and satellite remote sensing data (VIS, VNIR, SWIR, Thermal IR, RADAR, LiDAR) are acquired, processed and eventually applied in various fields. All the students are required to receive a B grade or better for this class.

2. From REM 611 - Digital Image Processing
All MAS students are required to master the digital image basics from data format, storage, to image formation, theory and techniques of image interpretation, rectification, restoration, correction, enhancement and classification, applications of feature extraction and change detection for Earth resources management using airborne and satellite images.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MAS-GIT 02: Geospatial Analysis

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate foundational skills needed to perform complex geospatial analyses. They will develop a working knowledge of ArcGIS, ENVI, and other contemporary GIT-related tools used in developing and implementing geospatial strategies.

Data Collection (Evidence)
Background: MAS students are required to master GIT techniques and adequate hands-on experience to utilize GIT software and tools. The techniques of preparing datasets, creating maps, and performing spatial analysis should be readily transferable to their future work places.

All students enrolled in REM 611-Digital Image Processing are required to complete 6 computer labs, take a final exam and propose a course project to demonstrate their understanding of principles in image analysis, competency of using ENVI and ArcGIS to analyze image data. They are required to figure out the methods of integrating these two software and other GIS-related tools (Google Earth, USGS Earth Explorer etc.) to produce image products with professional map legends for user reading and submit lab reports with their interpretation to images.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MAS-GIT 03: Proposal Development

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate ability in developing research proposal and communicating project process in written, oral, and graphic media at a professional level.

Data Collection (Evidence)
Background: MAS students are required to submit lab reports for each computer labs assigned, write research proposals, communicate research ideas with the advisor prior to the formation of proposal and in the course of conducting research.

All students enrolled in REM 611-Digital Image Processing must complete lab reports for documenting the implementation of labs, analysis of results and related discussions. Students will receive B grade or above averaged over all lab reports. They are required to submit a 3-5 page research proposal to clearly demonstrate the design

of project and methodology of carrying out research, provide a flowchart of research steps, and write progress reports to the instructor.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MAS-GIT 04: Independent Research

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate critical thinking and independent research ability. They will be able to propose original research topic, conduct literature review, plan, implement, and execute a comprehensive GIS project.

Data Collection (Evidence)
Background: All students in the MAS program must design, develop and complete a major individual project that solves a real-world problem by applying GIS, remote sensing and GPS knowledge and skills. The project involves experiments and analysis, database and systems design, software development, systems implementation and eventual deployment.

All students enrolled in GIS 690-Capstone Project must write a research proposal to describe their design of project, plan the timeline for conducting the project, and submit weekly progress reports. Upon the completion of project, students are required to submit a final project report.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MAS-GIT 05: Laboratory and Field Experiments

Start: 7/1/2013
End: 6/30/2014

Learning Outcome

Students will learn how to operate cutting-edge geospatial instruments to collect, process and visualize the data. Students will learn the data management skills from laboratory and field experiments, and computer simulation.

Data Collection (Evidence)
Background: MAS students are required to master the techniques in using GIT-related instruments for data acquisition and the subsequent data analysis. They are required to participate or watch the videos of their cohorts conducting field practice. All the students are required to process and analyze collected data.

1. From REM 616 - Remote Sensing
Students enrolled in REM 616-Remote Sensing were arranged to watch the videos of laboratory and field experiments recorded in the last year. They learned techniques of using a modern Garmin 550T Tracking GPS, a hyperspectral field spectrometer, a digital camera with GPS settings, an airborne hyperspectral mission. A computer lab was assigned for analyzing the collected data.

2. From GIS 631-Photogrammetry
Students enrolled in GIS 631-Photogrammetry were given the practice of simulating flight plan and 3-D flight line for data acquisition. They learned the factors to be considered for airborne remote sensing and photogrammetric data collection, and methods of measuring geographic elements from photogrammetric products.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MSNS-01: Critical Thinking

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate critical thinking in their critique of a scientific article from a peer reviewed journal.

Data Collection (Evidence)
Students will be monitored in an upper level course by a review of their critique of peer reviewed journal articles.

Results of Evaluation

Use of Evaluation Results

Related Items

There are no related items.

MSNS-02: Written Communication Skills

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate writing communication skills through technical writing.

Data Collection (Evidence)
Students will be monitored in an upper level course by assessing their ability to write a 10-15 page paper in the field.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MSNS-03: Independent Research

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate the ability to conduct independent research.

Data Collection (Evidence)
Students will be assessed by a presentation on their research findings.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

MSNS-04: Oral Communication

Start: 7/1/2013
End: 6/30/2014

Learning Outcome
Students will demonstrate proficiency in oral science communication.

Data Collection (Evidence)
Students will be assessed by sitting for oral master examinations upon completion of research and coursework.

Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

Gen Ed Learning Outcomes

BIO_100_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
Students enrolled in BIO 100 take a pre-test and post-test covering basic concepts of biology.
Many of the item on this test assess critical thinking and problem solving. Goal: 75% of students will show an improvement of at least 5 percentage points from pre-test to post-test.

Results of Evaluation
Use of Results

Related Items
There are no related items.

BIO_100_GE03: Quantitative Skills

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Enhancing abilities for symbolic and numeric reasoning and the ability to use and understand statistical and other quantitative techniques to interpret data

Data Collection
Students enrolled in BIO 100 take the Test of Integrated Process Skills (TIPS) test as a pretest and post-test. The TIPS assesses understanding of the scientific method, including analysis of quantitative data, hypothesis testing, and interpretation of graphs. Goal: 75% of students will show an improvement of at least 5 percentage points from pre-test to post-test.

Results of Evaluation

Use of Results

Related Items
There are no related items.

BIO_100_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
Students enrolled in BIO 100 take the Test of Integrated Process Skills (TIPS) test as a pretest and post-test. The TIPS assesses understanding of the scientific method, including understanding of technologies used in science and interpretation of experimental results. Goal: 75% of students will show an improvement of at least 5 percentage points from pre-test to post-test.

Results of Evaluation

Use of Results

Related Items
There are no related items.

BIO_110_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
Skills pertaining to scientific discovery, evaluation, and application are emphasized throughout the course, and several assignments require use of library databases and internet resources. 15% of the final grade is based on a writing assignment in which students select a topic such as a human ailment, endangered species, or urban sprawl. The instructor reviews and returns the rough draft so that students can make appropriate revisions. Goal: 80% of the students will show an improvement on their final report.

Results of Evaluation

Use of Results

Related Items
There are no related items.

BIO_110_GE05: Self

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing a fundamental understanding of the intricate nature of humans and the knowledge, interests, and skills to promote well-being and health

Data Collection
Lecture, laboratory, and outside classroom assignments are used that generate student awareness of environmental problems such as population growth, global disease, and genetically engineered food. Five laboratory assignments are used to evaluate the competency. They require students to discuss their opinions orally and in written reports. These assignments count for 33% of a student's laboratory grade. The goal is for 80% of the students to achieve an 80% or better on these lab assignments.

Results of Evaluation

Use of Results

Related Items
There are no related items.

BIO_110_GE10: Values

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Facilitating the search for moral, social, and ethical values and their roles in making decisions and assuming personal responsibilities

Data Collection

Lecture, laboratory, and outside classroom assignments are used that generate student awareness of about biological issues that focus on population growth, applications of DNA (forensic studies, cloning, human genome project), and conservation issues (saving endangered species, destruction of ecosystems, etc.). Lecture exams are used to evaluate this learning objective. Major goal is for 80% of the students to receive an 80% or better on the three written exams.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_101_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
The data will be collected in the fall semester by administering a 10 question pretest/ post-test. Success will be demonstrated if 70% of students will show improved scores on 70% of the post-test questions.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_101_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
The data will be collected from individual student scores on the Graphing Laboratory. If students achieve an average of 70% or greater (7 out of 10 points), student success is demonstrated.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_102_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
Data will be collected using a two semester American Chemistry Society Final Examination or a one semester American Chemistry Society Final Examination both designed to be administered at the end of CHE 102. If 50% of the students score 50% or higher on these final examinations, student success is achieved.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_102_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
The data will be collected from individual student scores on the Colligative Properties Laboratory (Molar Mass Determination /Freezing Point Depression Experiment). If students achieve an average of 70% or greater (7 out of 10 points), student success is demonstrated.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_103_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
The data will be collected in the fall semester by administering a 10 question pretest/ post-test. Success will be demonstrated if 70% of students will show improved scores on 70% of the post-test questions.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_103_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
The data will be collected from individual student scores on the Graphing Laboratory. If students achieve an average of 70% or greater (7 out of 10 points), student success is demonstrated.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_104_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
Data will be collected using a two semester American Chemistry Society Final Examination or a one semester American Chemistry Society Final Examination both designed to be administered at the end of CHE 102. If 50% of the students score 50% or higher on these final examinations, student success is achieved.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_104_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
The data will be collected from individual student scores on the Colligative Properties Laboratory (Molar Mass Determination /Freezing Point Depression Experiment). If students achieve an average of 70% or greater (7 out of 10 points), student success is demonstrated.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_110_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
Predetermined questions from tests 1, 2, and 3 will be assessed for mastery of concepts. If 60% of the students achieve 70% or above on selected questions, success is demonstrated.

Results of Evaluation

Use of Results

Related Items
There are no related items.

CHE_110_GE04: Inquiry and Technology

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Building the skills for the search, discovery, evaluation, and application of information, including an understanding of the nature and limits of appropriate technologies

Data Collection
The data will be collected from all 6 online- laboratories complete for each student. The overall average of all laboratory grades will be calculated. Success is achieved if 60% of the students achieve a 70% or above average.

Results of Evaluation

Use of Results

Related Items
There are no related items.

PHY_110_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection
Data is collected by administering an exit exam for the spring 2013 semester that measures basic concept knowledge in 10 key areas mastered in the course. Success is achieved if the class average on the exit exam is 70% or higher.

Results of Evaluation

Use of Results

Related Items
There are no related items.

PHY_205_GE01: Critical and Creative Thinking

Start: 7/1/2013
End: 6/30/2014

Gen Ed learning outcome (competency)
Developing sound analytical and reasoning skills and the ability to use them to think critically,
solve problems, analyze logically and quantitatively, and effectively respond to change

Data Collection

1. Data will be collected by analyzing pretest and post-test (final test). The pretest is administered the 2nd week of school to gauge student knowledge of astronomy.
2. Data from three different sections of PHY 205 will be collected and analyzed separately.
3. Success is achieved if students achieve an 80% or higher on the post-test/final test.

Results of Evaluation
Fall 2013:
Groups 1&2: Pre-test Score 18, 32%, Final Exam: Score 51, 91%
Group 3: Pre-test Score 10, 31%, Final Exam: Score 30, 94%

Spring 2014:
Groups 1&2: Pre-test Score 9, 18%, Final Exam: Score 47, 92
Group 3: Pre-test Score 12, 40%, Final Exam: Score 27, 90%

Since all of the groups score 80% or higher on the final exam, success was achieved.

Use of Results
Fall 2013:

Individual analysis of learning progress for students who were not able to pass this test showed their low attendance, the troubles in understanding any texts read by them. Teacher's help offered to them during the semester was not successfully done because or they simply refused or they ignored it. This makes me the question: what else could I do? Maybe (general suggestion for the future): to look for their supervisors and to consult their troubles?

Spring 2014:

Final result for this group oscillated around 92% what is just a good result so I can classify this course as successfully taught. Coming back to the Pre-test it is possible to find as big improvement was done by this group. I think my decision to use much more (just doubled) examples, exercises, and illustrations made sense. Thanks to some extra study-sessions which I decided for (especially to help students with the largest troubles in their Astronomy understanding), I was able to introduce all planned material during our regular lessons; simply students did not miss anything.

Related Items
There are no related items.

Unit Goals

BPS 2014_01: Review the Master of Science in Natural Science (MSNS) degree program

Start: 7/1/2013
End: 6/30/2014

Unit Goal
The Division of Biological and Physical Sciences offers graduate training to students that can ultimately lead to reception of the Master of Science in Natural Science (MSNS), with concentrations in either biology or chemistry. Over the approximately 25 years that this degree has been awarded through the division, changes have been made to each concentration that have collectively over time led to modifications that do not best serve students following the current curricular incarnations of these degrees. The MSNS program at Delta State University has not always been shaped with the best interests of the graduate students' needs in mind. An IHL-mandated program review of DSU's MSNS program required the division's faculty and staff to examine the current strengths and weaknesses of this degree.

During the AY 2013-2014, each divisional graduate curriculum committee (Biology & Environmental Science; Physical Sciences) will review the MSNS concentration attached to their particular area within the unit and provide faculty members with the opportunity to participate in the transformation of the MSNS degree. Specific questions to be addressed during AY 2013-2014 by the Graduate Curriculum Committees include:

(1) Are any modifications desired in the admissions requirements for the MSNS degree?
(2) What role(s) should be played by faculty mentors in the completion of the MSNS requirements?
(3) Should changes be made in the current structure of required MSNS courses?

Other committees in the division will address additional issues (such as sources of student support and faculty compensation) related to the transformation of the MSNS into a more contemporary, useful educational experience for the graduate student as well as serving as a positive experience in the career of the faculty scientist/mentor.

Note: The difference between a graduate curriculum committee and a curriculum committee is the fact that the graduate curriculum committee is composed by all of the graduate faculty members in that science discipline, while the curriculum committee is composed of all of the faculty in that discipline, graduate or not.

Evaluation Procedures
The MSNS curricula and policies will be compared to other science degree programs identified as similar to the DSU's MSNS concentrations at other institutions in the region deemed to be similar in construction and composition to Delta State

University. Any recommended changes made in admissions policies and administrative principles will be examined to insure that the division is compliant with Mississippi Institutes of Higher Learning rules & regulations. Other interested administrative individuals on the DSU campus will be consulted for their opinions concerning any recommended changes. Selected emeritus faculty may be invited to review the existing MSNS structure, for suggestions about appropriate change.

Actual Results of Evaluation
Use of Evaluation Results

Related Items
There are no related items.

BPS 2014_02: Facilitate successful move to new/renovated building

Start: 7/1/2013
End: 6/30/2014

Unit Goal
Develop a plan to execute clean move to renovated facilities.

Evaluation Procedures
1. Measure accomplishments through number of offices moved
2. Architecture South, DSU Facilities Management, Panola Construction, and various subcontractors will present to the division chair, division secretary, and B&PS faculty liaison (Eric Blackwell) suggested timetables per the known schedules of the construction and renovation workers as far in advance as possible. Upon review of these schedules, the division chair, the division secretary, and the B&PS liaison will inform the construction and renovation personnel about the days/weeks/spaces, *etc*. which are problematic for construction activity to coincide with scheduled activities in the building. For situations where power outages cannot be avoided, the division faculty members will be informed so that precautions can be taken to prevent problems with any equipment, spoilage of frozen/refrigerated materials, climate control issues with cultured living things, *etc*. Some decisions will require coordinated actions made by several individuals working together in a group, while other decision-making efforts will place a burden on individual faculty members who oversee individually-maintained pieces of equipment in isolated areas used by perhaps 1-2 faculty members, with assistance provided by the division's leadership & trained campus staff members as needed.

Actual Results of Evaluation

Use of Evaluation Results

Related Items
There are no related items.

Section IV.a

Brief Description

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

The Division of Biological and Physical Sciences is the administrative home of three undergraduate degree programs (B.S. in biology, B.S. in chemistry, B.S. in environmental science) and two graduate degrees (M.S. in Natural Sciences, MAS-GIT in Remote Sensing). Several options, specifically designed for students pursuing certain career pathways, are available through each of these degree programs. The overwhelming majority of the students in the division identify themselves as working toward completion of requirements necessary for admission to professional school in medicine, dentistry, physical therapy, pharmacy, veterinary medicine, occupational therapy, and other allied health professions. The environmental science degree program offers students opportunities to acquire skills necessary to compete in a growing occupational market; and is working closely with DSU's Center for Interdisciplinary Geospatial Information Technologies to provide state-of-the-art resources to majors interested in solving big problems with contemporary solutions. A substantial contribution to the university is made by the division to providing science instruction to students as part of DSU's General Education Curriculum.

Section IV.b

Comparative data

Enrollment, CHP, majors, graduation rates, expenditures, trends, etc.

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Credit Hour Production						
	Summer 2013		Fall 2013		Spring 2014	
	UG	GR	UG	GR	UG	GR
Biology (BIO)	175	0	2238	38	2035	39
Chemistry (CHE)	126	4	851	0	806	10
Physical Sciences (PHY)	185	5	579	0	643	0
Total	486	9	3668	38	3484	49

Enrollment by Major						
	Summer 2013		Fall 2013		Spring 2014	
	UG	GR	UG	GR	UG	GR
Biology	48	0	206	0	193	0
Chemistry	11	0	37	0	33	0
Environmental Science	3	0	21	0	18	0
Natural Science	0	5	0	7	0	6
Total	62	5	264	7	244	6

2013-14 Graduates	
Biology	
BS	40
Chemistry	
BS	4
Environmental Science	
BS	5
Natural Sciences	
MSNS	2

*Note there were 2 students who graduated with a second major in Environmental Science not counted in the above chart. There were also 2 students who graduated with a second major in Chemistry not included on the chart.

Trend Data_2010-14_Biological & Physical Sciences

Sources

Trend Data_2010-14_Biological & Physical Sciences

Section IV.c

Diversity Compliance Initiatives and Progress

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section IV.d

Economic Development Initiatives and Progress

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section IV.e

Grants, Contracts, Partnerships, Other Accomplishments

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section IV.f

Service Learning Data
List of projects, number of students involved, total service learning hours, number of classes, faculty involved, accomplishments.

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section IV.g

Strategic Plan Data
Only use this section if you have strategic plan info to report that is not covered in other areas of your report

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section IV.h

Committees Reporting To Unit
Each unit includes in the annual plan and report a list of the committees whose work impacts that unit or any other aspect of the university; along with the list will be a notation documenting the repository location of the committee files and records. Committee actions affecting the unit's goals may be noted in other applicable sections of the annual reports. Not required to be included in the unit's annual plan and report, but required to be maintained in the repository location, will be a committee file that includes, for each committee: Mission and by-laws, Membership, Process, Minutes.

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section V.a

Faculty (Accomplishments)
Noteworthy activities and accomplishments

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section V.b

Staff (Accomplishments)

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section V.c

Administrators (accomplishments)

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section V.d

Position(s) requested/replaced with justification

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section V.e

Recommended Change(s) of Status

Judgment
☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section VI.a

Changes Made in the Past Year

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Section VI.b

Recommended Changes for the Coming Year

Judgment

☐ Meets Standards ☐ Does Not Meet Standards ☐ Not Applicable

Narrative

Credit Hour Production							
	Summer		Fall		Spring		
	UG	GR	UG	GR	UG	GR	Total
Biology							
AY 2014	175	0	2238	38	2035	39	4525
AY 2013	192	9	2494	71	1938	60	4764
AY 2012	238	0	2,214	20	1,968	23	4463
AY 2011	227	0	2345	6	1966	4	4548
AY 2010	329	4	2,173	22	2,097	6	4631
Chemistry							
AY 2014	126	4	851	0	806	10	1797
AY 2013	157	6	889	7	825	15	1899
AY 2012	122	0	860	15	732	17	1746
AY 2011	132	0	779	11	663	15	1600
AY 2010	291	3	922	6	737	22	1981
Physical Science							
AY 2014	185	5	579	0	643	0	1412
AY 2013	200	0	559	0	670	0	1429
AY 2012	243	0	569	0	624	3	1439
AY 2011	297	0	711	0	627	0	1635
AY 2010	223	0	755	0	632	0	1610
AY Totals							
AY 2014	486	9	3668	38	3484	49	7734
AY 2013	549	15	3942	78	3433	75	8092
AY 2012	603	0	3643	35	3324	43	7648
AY 2011	656	0	3835	17	3256	19	7783
AY 2010	843	7	3850	28	3466	28	8222

Graduates					
	Biology	*Chem*	*Env Sci*	*Nat Sci*	
	BS	*BS*	*BS*	*MSNS*	Total
AY 2014	40	4	5	2	51
AY 2013	39	6	4	3	52
AY 2012	19	10	5	2	36
AY 2011	34	9	3	0	46
AY 2010	33	8	2	0	43

Enrollment by Major						
	Summer		Fall		Spring	
	UG	GR	UG	GR	UG	GR
Biology						
AY 2014	48	0	206	0	193	0
AY 2013	68	0	237	0	185	0
AY 2012	64	0	233	0	194	0
AY 2011	79	0	206	0	181	0
AY 2010	79	0	248	0	211	0
Chemistry						
AY 2014	11	0	37	0	33	0
AY 2013	14	0	38	0	34	0
AY 2012	7	0	38	0	30	0
AY 2011	11	0	44	0	44	0
AY 2010	26	0	42	0	37	0
Environmental Science						
AY 2014	3	0	21	0	18	0
AY 2013	6	0	28	0	23	0
AY 2012	9	0	23	0	22	0
AY 2011	6	0	22	0	20	0
AY 2010	2	0	23	0	17	0
Natural Science						
AY 2014	0	5	0	7	0	6
AY 2013	0	3	0	8	0	6
AY 2012	0	2	0	7	0	6
AY 2011	0	0	0	3	0	3
AY 2010	0	0	0	3	0	3
AY Totals						
AY 2014	62	5	264	7	244	6
AY 2013	20	3	66	8	57	6
AY 2012	16	2	61	7	52	6
AY 2011	17	0	66	3	64	3
AY 2010	28	0	65	3	54	3