Title.

Middle Georgia State University Academic Program Assessment

Instructions. This form collects assessment information for all academic programs at Middle Georgia State University. Program directors, chairs, or deans, should submit one form each year (or semester) for each academic program and for each site the academic program is offered (https://www.mga.edu/institutional-research/docs/Programs_by_Location.pdf) (i.e. if a program is offered in Macon and Cochran, separate assessments unique to the students enrolled at each location should be submitted). It is essential that improvements based on the assessment are also clearly identified and that the department keeps evidence of those improvements (i.e. new exams, syllabi, instructional tools) when an improvement is identified and implemented. Major changes to curriculum must go through the Academic Affairs process. Student Learning Outcomes (SLO) should match the Assessment Plan and Curriculum Maps found here: https://www.mga.edu/provost/program-histories.php; if they don't please contact OIRDS to update them. NOTE: All fields are required, please place NA or O in response field ONLY if SLO is not being utilized, otherwise full responses are required. Provide ALL necessary information requested to the fullest extent possible, such that a peer reviewer is not required to assume any information not provided. Utilize the provided assessment scoring rubric drafting guideline to evaluate your report prior to submission. https://www.mga.edu/institutional-research/docs/IEB_Academic_Program,_Student_Support,_Advising_Scoring_Card.pdf

Please SUBMIT the form within 30 minutes of opening this page. If you wait too long to submit you may lose your work In the event that you need to edit your submission, you may contact the Director of Institutional Effectiveness to secure a custom link to edit and resubmit.

Q1. Submitters Email

dawn.sherry@mga.edu

Q2. For which program is this assessment being submitted? An academic program for this purpose is defined as a major within a degree program (i.e. Bachelor of Arts with a major in English, Bachelor of Science with a major in Chemistry, Associates in Occupational Therapy Assistant).

Bachelor of Science with a major in Biology

Q3. For which campus is this program assessment being submitted? Note: A separate assessment report is needed for each location a program is offered.

- ○ Cochran
- ◉ Macon

- ○ Eastman
- ○ Dublin
- ○ Warner Robins
- ○ Online

Q4. In which College is this program located?

- ○ Arts and Letters
- ○ Aviation
- ◉ Health and Natural Sciences
- ○ Business
- ○ Computing
- ○ Education and Behavioral Sciences

Q5. Program Type

- ○ Graduate
- ◉ Undergraduate
- ○ Certificate

Q6. Which semester were the data collected and analyzed? If across multiple semesters, select the latest semester of data.

- ○ Summer 2022
- ○ Fall 2022
- ◉ Spring 2023

Q7. Approximately how many students are enrolled in this program at this location?

Macon-145, Cochran-49, Other-87

8. SLO 1: What is the first Student Learning Outcome for this support area? Student Learning Outcomes should be stated in measurable terms (i.e. students will be able to.....)

Biology majors will be able to identify, analyze and apply evolutionary processes within living systems.

9. SLO 1: What instrument (assessment type) was used to measure student's ability to demonstrate mastery of this learning outcome? (i.e. test, survey, etc) and provide specific details of the instrument (e.g. name, content areas, link etc.)

Embedded multiple choice questions on the final exam. Students are assessed in the BIOL 3211 Evolution course.

10. SLO 1: What target performance level would a student need to achieve on the assessment instrument to demonstrate mastery of this learning outcome? (i.e. 80% of all students will earn an average grade of 75% or better on....)

70 % students will correctly answer 5 final exam questions in BIOL 3211 Evolution course.

11. SLO 1: Provide details for your target performance level established (i.e. accreditation requirement, past performance data, peer program review, etc)

Past performance data and alignment with core concepts mastery outlined in the Vision & Change report on undergraduate biology education by the American Association for the Advancement of Science and NSF.

12. SLO 1: During this assessment cycle, what percent of the students who participated in this assessment demonstrated mastery of this learning outcome? (this should be a number between 0-100)

71%

13. SLO 1: Improvement Plans and Evidence of Changes Based on Performance Analysis: How does the analysis of students' performance on this Student Learning Outcome inform the implementation of improvement plans, and what evidence is collected and documented to support these changes?

Although target was met for the Macon campus, departmental faculty who teaching BIOL 3211 will be reviewing SLO's for BIOL 3211 Evolution this upcoming year and discussing new assessment questions and/or possible changes to instruction materials.

14. SLO 2: What is the second Student Learning Outcome for this support area? Student Learning Outcomes should be stated in measurable terms (i.e. students will be able to.....)

Biology majors should be able to demonstrate knowledge of the differences and commonalities between prokaryotic and eukaryotic cells.

15. SLO 2: What instrument (assessment type) was used to measure student's ability to demonstrate mastery of this learning outcome? (i.e. test, survey, etc) and provide specific details of the instrument (e.g. name, content areas, link etc.)

Embedded multiple choice questions on the final exam. Students are assessed in the BIOL 3104 Cell Biology course.

16. SLO 2: What target performance level would a student need to achieve on the assessment instrument to demonstrate mastery of this learning outcome? (i.e. 80% of all students will earn an average grade of 75% or better on....)

70% of students will correctly answer 5 questions on the BIOL 3104K Cell Biology final exam

17. SLO 2: Provide details for your target performance level established (i.e. accreditation requirement, past performance data, peer program review, etc)

Past performance data and alignment with core concepts outlined in the Vision & Change report on undergraduate biology education by the American Association for the Advancement of Science.

18. SLO 2: During this assessment cycle, what percent of the students who participated in this assessment demonstrated mastery of this learning outcome? (this should be a number between 0-100)

92%

19. SLO 2: Improvement Plans and Evidence of Changes Based on Performance Analysis: How does the analysis of students' performance on this Student Learning Outcome inform the implementation of improvement plans, and what evidence is collected and documented to support these changes?

Target was met, no changes are necessary at this time.

20. SLO 3: What is the third Student Learning Outcome for this support area? Student Learning Outcomes should be stated in measurable terms (i.e. students will be able to.....)

Biology majors will be able to identify, interpret, model and analyze genetic material.

21. SLO 3: What instrument (assessment type) was used to measure student's ability to demonstrate mastery of this learning outcome? (i.e. test, survey, etc) and provide specific details of the instrument (e.g. name, content areas, link etc.)

Embedded multiple choice questions on the final exam. Students are assessed in the BIOL 4110 Genetics course.

22. SLO 3: What target performance level would a student need to achieve on the assessment instrument to demonstrate mastery of this learning outcome? (i.e. 80% of all students will earn an average grade of 75% or better on....)

70% of students will correctly answer 5 questions on the BIOL 4110 Genetics final exam

23. SLO 3: Provide details for your target performance level established (i.e. accreditation requirement, past performance data, peer program review, etc)

Past performance data and alignment with core concepts outlined in the Vision & Change report on undergraduate biology education by the American Association for the Advancement of Science.

24. SLO 3: During this assessment cycle, what percent of the students who participated in this assessment demonstrated mastery of this learning outcome? (this should be a number between 0-100)

70%

25. SLO 3: Improvement Plans and Evidence of Changes Based on Performance Analysis: How does the analysis of students' performance on this Student Learning Outcome inform the implementation of improvement plans, and what evidence is collected and documented to support these changes?

Target was met, no changes are necessary at this time.

26. SLO 4: What is the fourth Student Learning Outcome for this support area? Student Learning Outcomes should be stated in measurable terms (i.e. students will be able to.....)

Biology majors will be able to demonstrate knowledge of diversity, classification and speciation of living organisms.

27. SLO 4: What instrument (assessment type) was used to measure student's ability to demonstrate mastery of this learning outcome? (i.e. test, survey, etc) and provide specific details of the instrument (e.g. name, content areas, link etc.)

Embedded multiple choice questions on the final exam. Students are assessed in the BIOL 3510 Invertebrate Zoology, BIOL 3520 Vertebrate Zoology or BIOL 3360 Plant Biology.

28. SLO 4: What target performance level would a student need to achieve on the assessment instrument to demonstrate mastery of this learning outcome? (i.e. 80% of all students will earn an average grade of 75% or better on....)

70% of students will correctly answer 5 final exam questions in one of the following courses: BIOL 3510 Invertebrate Zoology, BIOL 3520 Vertebrate Zoology or BIOL 3360 Plant Biology.

29. SLO 4: Provide details for your target performance level established (i.e. accreditation requirement, past performance data, peer program review, etc)

Past performance data and alignment with core concepts outlined in the Vision & Change report on undergraduate biology education by the American Association for the Advancement of Science.

30. SLO 4: During this assessment cycle, what percent of the students who participated in this assessment demonstrated mastery of this learning outcome? (this should be a number between 0-100)

In the fall of 2022, students on the Macon campus in BIOL 3360 Plant Biology scored an 80%. In the spring of 2023, students on the Macon campus in BIOL 3520 Vertebrate Zoology also scored an 80%.

31. SLO 4: Improvement Plans and Evidence of Changes Based on Performance Analysis: How does the analysis of students' performance on this Student Learning Outcome inform the implementation of improvement plans, and what evidence is collected and documented to support these changes?

Target was met, no changes are necessary at this time.

Q41. List each program concentration or track within the larger academic program and clearly articulate the expected learning outcomes. (If distinct note them distinctly, if common restate).

The B.S. Biology program has two tracks, the traditional biology degree track and a biology secondary education track. Both programs emphasize mastery of the content area and therefore, SLO's are the same: SLO1. Biology majors will be able to identify, analyze and apply evolutionary processes within living systems. SLO2. Biology majors will be able to demonstrate knowledge of the differences and commonalities between prokaryotic and eukaryotic cells. SLO3. Biology majors will be able to identify, interpret, model and analyze genetic material. SLO4. Biology majors will demonstrate knowledge of diversity, classification and speciation of living things.

Q42. How do you collect and report data on the achievement of these learning outcomes for each program concentration or track?

Students in both tracks are required to take BIOL 3211 Evolution, BIOL 3104 Cell Biology, BIOL 4110 Genetics and either BIOL 3360 Plant Biology, 3510 Invertebrate Zoology or 3520 Vertebrate Zoology. Therefore, students in both tracks are assessed in these required courses with embedded questions on the final exams. Currently, there are no students in the Biology Secondary Education track and overall this track has had less than five students total.

Q43. Report and analyze the learning outcomes associated with each program concentration or track

See previous information for the B.S. Biology program- Macon campus. No students are currently in the Biology Secondary Education track.

32. How many students participated in the assessment of these learning outcomes, in this program, for this assessment cycle at this location? (Provide Number)

82

33. Based on your goals and objectives listed above please indicate their connection with MGA's Strategic Plan (https://www.mga.edu/about/docs/Strategic_Plan_Overall_DB.pdf) by checking all associated and relevant Imperatives / Strategies from the list below. (Check all the apply)

- [x] Grow Enrollment with Purpose 1. Expand and enrich the face to face student experience
- [ ] Grow Enrollment with Purpose 2. Expand and enrich online instruction into new markets
- [ ] Own Student Success 3. Develop academic pipelines and expand degrees
- [x] Own Student Success 4. Expand student engagement and experiential learning
- [ ] Build Shared Culture 5. Attract talent and enhance employee development and recognition
- [ ] Build Shared Culture 6. Sustain financial health through resourceful fiscal management
- [ ] Build Shared Culture 7. Cultivate engagement with its local communities

34. Please indicate which of the following actions you have taken as a result of the 2021/2022 Assessment Cycle (Note: These actions are documented in reports, memos, emails, meeting minutes, or other directives within the reporting area)(Check all the apply)

- [x] Disseminating/Discussing Assessment Results/Feedback to Appropriate Members of the Campus Community
- [ ] Disseminating/Discussing Assessment Results/Feedback to Appropriate External Stakeholders
- [ ] Faculty or Staff Support: Professional Development Activities, Trainings, Workshops, Technical Assistance
- [ ] Process Changes: Improve, Expand, Refine, Enhance, Discontinue, etc Operational Processes
- [ ] Request for Additional Financial or Human Resources
- [ ] Customer Service Changes: Communication, Services, etc
- [x] Making Improvements to Teaching Approach, Course Design, Curriculum, Scheduling, other
- [ ] Evaluating and/or Revising the Reporting Lines Internal Assessment Processes
- [ ] Other

35. Please indicate (if appropriate) any local, state, or national initiatives (academic or otherwise) that are influential in the operations, or goals, and objectives of your unit. (Complete College Georgia, USG High Impact Practice Initiative, LEAP, USG Momentum Year, Low-Cost No-Cost Books, etc)

The department is continuing to review the current biology program curriculum and compare MGA's program learning outcomes with those outlined in the Vision & Change report (American Association for the Advancement of Science 2011).

36. Please provide a comprehensive narrative outlining how assessment results are utilized for continuous improvement in this field. Your narrative should address the past, present, and future aspects of assessment, with specific emphasis on how these results inform decision-making and drive improvement efforts.

Please note, the B.S. Biology program has 5 SLO's. This form only allows for four. SLO 5: Biology majors should be able to communicate scientific information both written and orally. This is assessed with a written, oral or research project in BIOL 4120 or 4894. Students should score 70% or higher. SLO 5: Results: In FA2022, students in BIOL 4120 earned a 91% on this assessment; students in SP 23, BIOL 4120 earned a 90%. In FA22, students in BIOL 4894 earned an 82% and in SP 23 students earned an 87%. Target was met for this SLO. No changes will be necessary for next year. PAST: Faculty in the Dept of Natural Sciences have used the program assessments to provide useful information as to how well MGA biology majors understand core concepts in biology. Students in this program have been successful in passing GRE, MCAT and DAT exams, which speaks to the excellent preparation the biology program at MGA does for rigorous professional school entrance exams. Although a review of curriculum was planned for last year, removal of key departmental faculty positions (two assistant chairs) prevented this initiative from taking place. CURRENT: Results of assessment data are used by faculty to guide decision-making within the program. Faculty members use the data to identify areas where student learning outcomes are not being met and potential gaps in the curriculum and opportunities to incorporate new teaching methods into the curriculum. This past year, students in the Cochran section of BIOL 3211 did not meet the targets set for them. The instructors in the upcoming year will be incorporating a number of strategies to improve student understanding of evolutionary concepts including: assigning students scientific papers to read and assessing their ability to understand evolutionary concepts within those papers; assignment of comprehensive homework which will require that students can provide written analysis of evolutionary topics; and assignment of a short written essay on an evolutionary topic of a student's choice. FUTURE: In addition to the current changes being incorporated into the BIOL 3211 courses listed above, the department will also be reviewing SLO's for BIOL 3211 Evolution this upcoming year and discussing new assessment questions and/or possible changes to instruction materials. Review of current curriculum for alignment with principles outlined in Vision and Change may also be completed over the next year.

37. Optional: The following upload portal is available to supplement your report with supportive documentation should you wish to provide any (instruments, data, etc).