



**Middle Georgia
State University**

Title.

Middle Georgia State University Administrative Assessment

Instructions. This form is used to collect administrative assessments for each budgeted unit at Middle Georgia State University (academic and nonacademic units). Departments should include a brief mission statement (describing what they do and who they serve), goals the department or unit is working to accomplish (in a 5 year time frame. Your goals and objectives should be reported out individuals, linked to the plan imperatives and strategies, align with the measurable objectives from the previous year , and defined and measurable objectives for the upcoming year. This form should be completed by each budgeted unit no later than the end of July. NOTE: All fields are required, please place NA or O in response field ONLY if the numbered objective 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_Administrative_Score_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. Who is the person responsible for this report?

Dr. Dawn Sherry, Chair Dept. Natural Sciences

Q3. For which year are you completing this report?

- FY 23 (July 2022-June 2023)
- FY 24 (July 2023-June 2024)
- FY 25 (July 2024-June 2025)

Q4. To which division of the University is your unit assigned?

- Office of the President

- Advancement
- Academic Affairs
- Fiscal Affairs
- Enrollment Management
- Student Affairs

Q5. For which department or area are you reporting? (Ex. Financial Aid, Library, OTR, Athletics, etc)

Natural Sciences

Q6. The mission and goals of the department should be consistent over a 5 year period, although some institutional changes may necessitate and prompt a change in mission or goals for specific departments. In this section, report the mission statement for your department.

The department of Natural Sciences serves a diverse student body ranging from science majors to students taking science courses for their core curriculum. Departmental programs prepare students for rigorous post- baccalaureate programs or to enter into today's competitive job markets by providing opportunities for students to advance their knowledge through undergraduate research and through experiential learning. The Department of Natural Sciences supports the scholarly atmosphere of the university by promoting faculty research and scholarly activity.

Q7. What are the goals for this department? These should be the "big things" the department/area intends to accomplish within 5 years.

1. To increase biology majors engagement through participation in undergraduate research projects. 2. To support faculty research and the scholarly atmosphere of the university. 3. To provide an opportunity for undergraduate researchers to present their work to the campus and surrounding community in a STEM Undergraduate Research Symposium. 4. To review B.S. Biology curriculum and bring it into alignment with the goals and objectives outlined in Vision and Change in Undergraduate Biology Education (NSF 2009)

0. Each year, every department should identify objectives the department hopes to accomplish in the next year. These should align with departmental goals and the MGA strategic plan. In the next section you will be reporting on the objectives you set and whether or not you achieved them in FY23. Later in the document you will report on objectives you hope to accomplish in the coming fiscal year, FY24.

8. Objective 1: What was this department's first objective for this fiscal year? Objectives should be specific, measurable, and achievable within one year.

The Department of Natural Sciences will increase the number of students involved in undergraduate research by 5%.

9. Objective 1: Detail specifically how your department measured this objective? (Survey, budget number, number of participants, jobs completed, measurable time and/or effort, etc)

Students in Department of Natural Sciences programs can participate in undergraduate research through two different research pathways. Students can work directly with faculty on specific research projects (i.e., traditional undergraduate research projects) or they can participate in research that is offered through Course-Related Undergraduate Research Experiences (CUREs). CUREs are defined as re learning experiences in which whole classes of students address a research question or problem with unknown outcomes or solutions that is of interest to external stakeholders. CUREs offer an important way to expand research opportunities to all students in a program and not just those who seek out these opportunities to work directly with faculty. The department measured this objective by counting student enrollment in designated research courses, SCIE 2999 & BIOL 4894. Plus a count of students participating in Course-Related Undergraduate Research Experiences. The target, based on discussions with peers at other institutions, was to increase enrollment in these courses by 5% over last year.

10. Objective 1: What was your target outcome for this objective? (1.e. 80% participation, 5% enrollment growth, 7% change in engagement)

The target, based on discussions with peers at other institutions within the USG STEM IV grant was to increase enrollment in these courses by 5% over last year.

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

Target performance level was based on discussions with peers at other institutions.

12. Objective 1: At what level did the department/area achieve on this objective? (This should be a number, i.e. 82%, 6%, 345 attendees, 75% engagement)

Enrollment in undergrad research increased by approximately 15% and in Course Related Undergraduate Research experiences, enrollment increased by 7.5%. • FY 2020-21-total number of students enrolled in SCIE 2999 & BIOL 4894 was 4; total number of students enrolled in CUREs was 117. Courses offering CUREs included BIOL 1001L, 1002L, 4110, CHEM 1212 (two sections) both semesters. • FY 2021-22-total number of students enrolled in SCIE 2999 & BIOL 4894 was 13; total number of students enrolled in CUREs was 147. Courses offering CUREs included BIOL 3310, 3510, 3540, 4110, CHEM 1212 (two sections) and MATH 3500. • FY 2022-23-total number of students enrolled in SCIE 2999 or BIOL 4894 was 15; total number of students enrolled in CUREs was 158. The specific CURE courses included CHEM 1212, 2212; BIOL 1001L, 3520; and MATH 1113.

13. Objective 1: Did your department meet this objective?

- The department did not meet this objective.
- The department met this objective.
- The department exceeded this objective.

14. Objective 1: Improvement Plans and Evidence of changes based on an analysis of the results: What did your department learn from working toward this objective? What changes will you make based on this effort next year?

Participating in CUREs benefits students in numerous ways including enhanced self-confidence in scientific thinking and development of scientific skills. CUREs help to increase inclusivity in science for under-represented populations and improve persistence in science. They can also benefit faculty in helping them to integrate teaching and research. The Department of Natural Sciences plans to continue to promote both CUREs and undergraduate research experiences as part of the new institutional mission to grow student engagement at all degree levels. The Department will also encourage students and faculty to present their work both within the institution and at STEM conferences.

15. Objective 2: What was this department's second objective for this fiscal year? Objectives should be specific, measurable, and achievable within one year.

The Department of Natural will map 100% of the upper level required course curriculum and compare it to the Vision and Change NSF (V&C) outcomes.

16. Objective 2: Detail specifically how your department measured this objective? (Survey, budget number, number of participants, jobs completed, measurable time and/or effort, etc)

Faculty instructors of upper level required courses were sent surveys asking them to identify content covered in each of the upper-level biology courses. Instructors for a specific upper-level course were asked to identify content covered in their course. Non-instructors of that course were asked to identify areas of overlap from other courses they teach. Faculty were also asked to describe at what level and by what methods content was covered. We generated a heat map that characterizes content coverage across all upper-level courses. We mapped topics back to V&C concepts & competencies.

17. Objective 2: What was your target outcome for this objective? (i.e. 80% participation, 5% enrollment growth, 7% change in engagement)

The target outcome was to have 100% of courses mapped.

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

The target performance level was based on comparisons to peer program reviews at other institutions.

19. Objective 2: At what level did the department/area achieve on this objective? (This should be a number, i.e. 82%, 6%, 345 attendees, 75% engagement)

Only 25% of the courses have been completed at this time. Biology program faculty were surveyed to determine content covered in upper level required courses. Preliminary results for BIOL 3540K BIOL 3104K were tallied and a curriculum heat map was generated for those two courses in the program. Loss of key staff positions (both departmental Assistant Chairs, who were assisting in data analysis) and no administrative assistants in the department for several months has prevented continuation of this work in AY 2022-23.

20. Objective 2: Did your department meet this objective?

- The department did not meet this objective.
- The department met this objective.
- The department exceeded this objective.

21. Objective 2: Improvement Plans and Evidence of changes based on an analysis of the results: What did your department learn from working toward this objective? What changes will you make based on this effort next year?

The loss of assistant chairs, who served a vital role in departmental operations, has meant that some projects have been put on hold. Although faculty have stepped up to assist in various aspects of departmental operations, this volunteer assistance cannot replace the dedicated (and paid) time for projects and operations that assistant chairs provided in the past. This is an important project and there will be a renewed focus on analyzing the current surveys over the next year. Recruiting faculty to participate in this effort will be crucial to the success of this effort.

22. Objective 3: What was this department's third objective for this fiscal year? Objectives should be specific, measurable, and achievable within one year.

The Department of Natural Sciences will co-host the STEMposium in Spring 2023 with a 10% increase in student and faculty participation.

23. Objective 3: Detail specifically how your department measured this objective? (Survey, budget number, number of participants, jobs completed, measurable time and/or effort, etc)

A count of the number of faculty & student presenters and a count of attendees.

24. Objective 3: What was your target outcome for this objective? (1.e. 80% participation, 5% enrollment growth, 7% change in engagement)

10% increase in faculty & student presenters & attendees.

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

The target performance level was established based on past performance data.

26. Objective 3: At what level did the department/area achieve on this objective? (This should be a number, i.e. 82%, 6%, 345 attendees, 75% engagement)

The Department had a 60% increase in student participation in SP 2023 (from n=14 in SP22 to n=22 in SP 23). There was also a 50% increase in faculty participation from SP 22 (n=4) to SP 23 (n=8). The conference attendance was approximately 50 people, which was equivalent to last year's conference attendance numbers.

27. Objective 3: Did your department meet this objective?

- The department did not meet this objective.
- The department met this objective.
- The department exceeded this objective.

28. Objective 3: Improvement Plans and Evidence of changes based on an analysis of the results: What did your department learn from working toward this objective? What changes will you make based on this effort next year?

The 2023 STEMposium was a success this past year. This event offers a number of benefits to the departmental students and faculty including an opportunity for current students to share their research work with peers and faculty; an opportunity for lower level students to become familiar with research projects and faculty in the department; an opportunity for faculty to observe successful (and sometimes not successful) CURE projects that may help to kickstart ideas for their own CURE projects. Most importantly, this event promotes student scholarship and engagement at the university and within the department. The department will continue to host this event and encourage the participation of other departments in the event.

29. Objective 4: What was this department's fourth objective for this fiscal year? Objectives should be specific, measurable, and achievable within one year.

To grow student engagement both within the department/institution and externally in the community.

30. Objective 4: Detail specifically how your department measured this objective? (Survey, budget number, number of participants, jobs completed, measurable time and/or effort, etc)

The department tracked the number of events and activities that faculty and students participated in over the past year.

31. Objective 4: What was your target outcome for this objective? (1.e. 80% participation, 5% enrollment growth, 7% change in engagement)

The target outcome was to establish an initial baseline of departmental and community engagements that faculty and Natural Sciences students participated in.

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

The department was acquiring baseline data with a goal of looking to continue increasing engagement in future years.

33. Objective 4: At what level did the department/area achieve on this objective? (This should be a number, i.e. 82%, 6%, 345 attendees, 75% engagement)

The department hosted or participated in six external events. These events are defined as events that primarily benefit the surrounding community or promote the department or programs in the surrounding community. They include events such as hosting the Science Olympiad, entering a team in the Magnolia Soapbox Derby, participating in Bleckley County Science Night events, etc. The department also hosted or participated in five internal events. These events target current students at MGA and include hosting the Young Physicians Initiative meetings (a program bringing Mercer Medical students to meet with MGA students); the STEMposium; the Natural Sciences Alumni Speaker series, etc.

34. Objective 4: Did your department meet this objective?

The department did not meet this objective.

The department met this objective.

- The department exceeded this objective.

35. Objective 4: Improvement Plans and Evidence of changes based on an analysis of the results: What did your department learn from working toward this objective? What changes will you make based on this effort next year?

This past year, the department has made a concerted effort to have a greater presence in the surrounding community and internally to engage our majors. While this past year represents baseline data, we will try to increase community and internal engagement over the next year. Faculty have been challenged to seek these opportunities and to include MGA students in participating in them whenever possible.

36. 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)

- 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
- 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

37. 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)

- 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 Assistanceion 3
- Process Changes: Improve, Expand, Refine, Enhance, Discontinue, etc Operational Processes
- Request for Additional Financial or Human Resources
- Customer Service Changes: Communication, Services, etc
- Making Improvements to Teaching Approach, Course Design, Curriculum, Scheduling, other
- Evaluating and/or Revising the Reporting Lines Internal Assessment Processes
- Other

38. 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.

Assessment results provide an opportunity for Departments to reflect on whether or not the objectives that have been set in the previous year have been met. If objectives have not been met, the assessment process allows for an examination of obstacles as well as an opportunity to seek solutions for those obstacles. Conversely, if objectives have been met, they offer an opportunity to celebrate milestones accomplished and to set new goals or objectives for the future. The goals that the Department of Natural Sciences has been working towards are as follows: 1) To increase biology majors engagement through participation in undergraduate research projects; 2) To support faculty research and the scholarly atmosphere of the university; 3) To provide an opportunity for undergraduate researchers to present their work to the campus and surrounding community in a STEM Undergraduate Research Symposium; and 4) To review B.S. Biology curriculum and bring it into alignment with the goals and objectives outlined in Vision and Change in Undergraduate Biology Education (NSF 2009). Specific objectives have been identified to measure our progress towards these goals. PAST • The Department of Natural Sciences has been participating in the USG STEM grant work for over six years now. These grant monies have provided important financial support to allow the Department to fully participate in the goals and objectives of MGA's Strategic Plan. A longstanding goal of the department has been to increase biology majors engagement through participation in undergraduate research projects. Over the years, we have done this using both the traditional "apprenticeship" style research projects, wherein, students work individually with faculty on specific research projects. Several years ago, we expanded opportunities to all students by encouraging faculty to offer Course-Related Undergraduate Research Experiences (CUREs) in their classes. In the past several years, the Department has consistently exceeded its targets related to increasing participation in undergraduate research projects and CUREs. The number of students enrolled in research courses totaled four in FY 2020-21 and increased to 13 in FY 21-22. While the number of students participating in CUREs went from 117 in FY 2020-21 to 147 in FY 2021-22. Courses with CUREs included BIOL, CHEM and MATH courses. • The focus on creating undergraduate research opportunities has led to an increase in departmental faculty scholarship, both in areas of traditional research and also in the scholarship of teaching. Building the scholarship aspect and accumulating important research equipment and lab space, has helped the department to recruit new faculty. Last year, the Department was able to hire 5 new faculty. At the time, several indicated an interest in supervising undergraduate research (and one has been doing so). Last year, we also asked faculty who were offering CUREs to share their work with colleagues at the STEMposium. This allowed them to both highlight their work and to encourage other faculty to incorporate CUREs in their courses over the next year. • To provide an opportunity for undergraduate researchers to present their work to the campus and surrounding community in a STEM Undergraduate Research Symposium. This goal was introduced last year and was added to provide opportunities for both students and faculty to share their scholarship with peers and other departments. Last year was the inaugural STEMposium and our hope was to continue grow this event. Communicating the work of the faculty and students increases engagement by expanding and enriching the face to face student experience, expands awareness experiential learning opportunities to all STEM students and has helped us to attract faculty talent to the University. • To review B.S. Biology curriculum and bring it into alignment with the goals and objectives outlined in Vision and Change in Undergraduate Biology Education (NSF 2009). Ensuring that biology program curriculum is meeting the standards that students need to competitive in rigorous graduate or post-baccalaureate professional programs is important to departmental faculty. Additionally, ensuring that our program meets the needs of 21st century science-oriented careers is also important. The department undertook a comprehensive review of program outcomes and curricula in the fall of 2021. Using the concepts and competencies outlined in the Vision & Change report produced by NSF to help biology educators modernize undergraduate biology education, the department surveyed faculty teaching upper level required courses to determine what content was being covered in these courses. The goal was to identify areas of high overlap and/or gaps in content coverage with an eye towards improving the program overall. CURRENT • The Department has been successful in meeting objectives related to increasing participation in undergraduate research both in research apprenticeships and in CUREs. In FY 2022-23-total number of students enrolled in SCIE 2999 or BIOL 4894 was 15; total number of students enrolled in CUREs was 158. The specific CURE courses included CHEM 1212, 2212; BIOL 1001L, 3520; and MATH 1113. There was an approximately 16% increase in undergraduate research enrollment in 2022-23 and a 7% increase in student participation in CUREs compared to the previous year. • One of the objectives this year was to map 100% of the upper level required course curriculum and compare it to the Vision and Change NSF outcomes. At this time, 25% of the courses have been completed at this time. Biology program faculty were surveyed to determine content covered in upper level required courses. Preliminary results for BIOL 3540K and BIOL 3104K were tallied and a curriculum heat map was generated for those two courses in the program. Loss of key staff positions (both departmental Assistant Chairs, who were assisting in data analysis) and no departmental administrative assistants working in the department has prevented continuation of this work in AY 2022-23. • The Department of Natural Sciences successfully co-hosted the STEMposium in Spring 2023 with a 10% increase in student and faculty participation over last year. At the Spring 2023, a total of 22 current MGA students presented either oral presentations or scientific posters. Students included mathematics, biology, chemistry and information technology students. The Spring 2023 STEMposium also had 3 MGA alumni plenary speakers from Science, Math & Information Technology disciplines. Six faculty members co-authored scientific poster presentations. Four faculty members, who offered CUREs in their courses, shared information about their projects with conference attendees. These presentations served both to promote these CURE projects to new students and also to other faculty, who might want to offer CUREs in their own courses in the future. • A final objective of this year was to grow student engagement both within the department/ institution and externally in the community. The department hosted or participated in six external events. These events are defined as events that primarily benefit the surrounding community or promote the department or programs in the surrounding community. They include events such as hosting the Science Olympiad, entering a team in the Magnolia Soapbox Derby, participating in Bleckley County Science Night events, etc. The department also hosted or participated in five internal events. These events target current students at MGA and include hosting the Young Physicians Initiative meetings (a program bringing Mercer Medical students to meet with MGA students); the STEMposium; the Natural Sciences Alumni Speaker series, etc. FUTURE In concordance with the new mission of Middle Georgia State University, the Department of Natural Sciences will continue to strive towards the following goals: 1) To increase biology majors' engagement through participation in undergraduate research projects or Course-Related Undergraduate Research Experiences; 2) To provide an opportunity for undergraduate researchers and faculty to present their work to the campus and surrounding community in a STEM Undergraduate Research Symposium; and 3) To review B.S. Biology curriculum and bring it into alignment with the goals and objectives outlined in Vision and Change in Undergraduate Biology Education (NSF 2009); 4) To grow student engagement both within the department/ institution and externally in the community.

39. 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)

USG STEM Grant IV; LEAP, USG High Impact Practice Initiative. NSF Vision and Change in Undergraduate Biology Initiative.

40. Please identify and detail three to four measurable objectives for the next fiscal year. In listing the objectives, please use the format shown in these examples. 1) The Department of X will improve services levels by 5% as measured by our satisfaction survey. 2) The department of X will provide training in ABC for at least 73 MGA faculty and staff.

• To increase by 5%, biology majors' engagement through participation in undergraduate research projects or Course-Related Undergraduate Research Experiences. • To increase by 5% participation by faculty and students in the STEM Undergraduate Research Symposium. • To review 100% of the B.S. Biology curriculum and compare it to the goals and objectives outlined in Vision and Change in Undergraduate Biology Education (NSF 2009); • To grow by 5%, student and faculty engagement both within the department/ institution and externally in the community.

41. Optional Mindset Update (Academic Deans ONLY) Please provide an update on the implementation of your school based mindset plan/strategy. Include any adjustments to metrics for the FY23 as well as outcomes associated with your appraisal of your schools activities.

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