Program Assessment Report

2022 - 2023

CAGS - Meteorology (MS)

Program General Information

General Information

Mission

Prepare students to be future leaders in the atmospheric sciences.

College

Atmospheric and Geographic Sciences

Department/School/Division

Meteorology

Assessment Liaison

Prof. Scott Salesky

Communication Skill

Student Learning Outcome (SLO)
Demonstrate skill in oral and written scientific communication

Outcome Status
Active

Direct - Presentation

Assessment Method Description
Peer and instructor rubric evaluation for presentations given in required seminar course (=30 min in length).

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Our peer review form assesses the presentation design, presentation organization, speaker's presence, speaker's language skills, speaker's mastery of the subject matter, and the overall impression their presentation left on the audience. Each category is graded on a scale from 0 (poor) to 5 (excellent). The average scores from 22 MS presenters in the 2022-2023 academic year were: 4.51, 4.61, 4.56, 4.53, 4.65, and 4.50.

Results Status
Target Met

Number of Students Assessed
22

USE OF ASSESSMENT RESULTS

Other
The assessment target set in previous years was at least a 4.5 average score in every category from a minimum of 10 student presentations. This goal was met in all categories for the 2022-2023 academic year, which is an improvement over the previous two years where the target was met in all categories, except for presentation design. The target for next year will remain an average ranking e 4.5 in every category.

Direct - Project

Assessment Method Description
Performance on course research projects (may be written or oral). Current courses that include research projects: METR 5233, 5503, and 5803.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Communication skill was assessed through course work in Meteorology graduate courses which include a major project: METR 5013 (Science at the Tropopause), METR 5503 (Climate Dynamics), and METR 6103 (Turbulence). During the 2022-23 academic year, 3 MS students were enrolled in METR 5013, and all earned As on the course project. METR 5503 had 6 MS students enrolled, and all 6 earned As on the course project. In METR 6103, 2 MS students were enrolled, and both earned As on the course project.

Results Status
Target Met

Number of Students Assessed
11

USE OF ASSESSMENT RESULTS

Assessment Process/Procedures

This performance target was met easily. The target will remain unchanged for the next assessment period, but we will consider updating it if this positive trend continues.

Direct - Annual Performance Report by Faculty/Adviser

Assessment Method Description

Ranked score of student performance by their graduate advisor in annual reports. Written responses will also be considered when deciding on action items for future improvement.

Assessment Results and Use of Results

Reporting Period

2022 - 2023

Assessment Results Entry Date

09/28/2023

Assessment Results

Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status

No Results

Number of Students Assessed

0

USE OF ASSESSMENT RESULTS

Other

n/a

Direct - Oral Dissertation or Thesis Defense

Assessment Method Description

Committee report on the quality of the thesis and thesis defense.

Assessment Results and Use of Results

Reporting Period

2022 - 2023

Assessment Results Entry Date

09/28/2023

Assessment Results

Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status

No Results

Number of Students Assessed

0

USE OF ASSESSMENT RESULTS

Other

n/a

Research Skill

Student Learning Outcome (SLO)

Demonstrate skill in scientific research

Outcome Status

Active

Direct - Annual Performance Report by Faculty/Adviser

Assessment Method Description
Ranked score of student performance by their graduate advisor in annual reports. Written responses will also be considered when deciding on action items for future improvement.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status
No Results

Number of Students Assessed
0

USE OF ASSESSMENT RESULTS

Other
n/a

Direct - Dissertation/Thesis

Assessment Method Description
Committee report on the research quality demonstrated in the thesis and thesis defense.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status
No Results

Number of Students Assessed
0

USE OF ASSESSMENT RESULTS

Other
n/a

Computer Programming Skill

Student Learning Outcome (SLO)
Demonstrate proficiency in programming at a professional level

Outcome Status
Active

Direct - Annual Performance Report by Faculty/Adviser

Assessment Method Description
Ranked score of student performance by their graduate advisor in annual reports. Written responses will also be considered when deciding on action items for future improvement.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status
No Results

Number of Students Assessed
0

USE OF ASSESSMENT RESULTS

Other
n/a

Direct - Course Embedded Assessment

Assessment Method Description
Performance in two core classes: METR 5313 and 5433.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Data to assess computer programming skill was collected in METR 5313 and METR 5433, both of which include a major programming component. For this assessment period, there were 3 MS students enrolled in METR 5313, all of whom earned As on the programming assignments. There were 9 MS students enrolled in METR 5433; these students earned 8 As and 1 B on the programming assignments.

Results Status
Target Met

Number of Students Assessed
12

USE OF ASSESSMENT RESULTS

Assessment Process/Procedures
Our prior target of 50% As for the programming assignment was easily met. If this positive trend continues, we will update the target in future years.

Atmospheric Dynamics Mastery

Student Learning Outcome (SLO)
Demonstrate mastery of atmospheric dynamics

Outcome Status
Active

Direct - Course Embedded Assessment

Assessment Method Description
Performance in METR 5004, 5113, and 5413.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
For the 2022-2023 academic year, there were 14 students enrolled in METR 5004. Dynamics assessment based on performance in METR 5004 is related to both homework and exam performance on dynamics topics; for this academic year, 8 out of 14 students earned As and the remaining 6 earned Bs on dynamics topics. In the 2022-2023 academic year, 19 students were enrolled in METR 5113, with 10 receiving As and 9 receiving Bs. During this time frame, 28 MS students were enrolled in METR 5413, with 19 receiving As, and 9 receiving Bs. Both METR 5113 and 5413 are assessed in terms of the final cumulative grade since both courses focus primarily on atmospheric dynamics.

Results Status
Target Met

Number of Students Assessed
61

USE OF ASSESSMENT RESULTS

Other
All of our previously set targets were met this year, and by a greater margin than in the 2021-2022 assessment period. For 2023-2024, our targets will remain 1) at least 50% of students receive >= 70% on METR 5004 dynamics assessments, 2) at least 33% of students receive an A in METR 5113, 3) at least 50% of students receive an A in METR 5413, and 4) no more than one student fails METR 5113 or 5413.

Direct - Oral Dissertation or Thesis Defense

Assessment Method Description
Committee report on performance during thesis defense.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status
No Results

Number of Students Assessed
0

USE OF ASSESSMENT RESULTS

Other
n/a

Atmospheric Physics Mastery

Student Learning Outcome (SLO)
Demonstrate mastery of atmospheric physics

Outcome Status
Active

Direct - Course Embedded Assessment

Assessment Method Description
Performance in METR 5004, 5223, and 5233.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
14 students were enrolled in METR 5004 during the 2022-2023 academic year. These students earned 2 As, 10 Bs, and 2 Cs on atmospheric physics topics assessed through exams and homework assignments. Performance in METR 5223 and METR 5233 is assessed through the final course grade. In the 2022-2023 academic year, the 2 MS students enrolled in METR 5223 each earned Bs. During this time period, there were 10 MS students enrolled in METR 5233; they earned 9 As and 1 C.

Results Status
Target Not Met

Number of Students Assessed
26

USE OF ASSESSMENT RESULTS

Other
For this assessment period, we did not meet our target of at least 50% of students receiving As in METR 5223, although we had a small sample size of only two students. All other targets were met. For 2023-24, our targets will remain: 1) At least 33% of students receive >= 70% in METR 5004 physics assessments, 2) at least 50% of students receive an A in METR 5223, 3) at least 50% of students receive an A in METR 5233, 4) not more than one student fails METR 5223 or 5233.

Direct - Oral Dissertation or Thesis Defense

Assessment Method Description
Committee report on performance during thesis defense.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
09/28/2023

Assessment Results
Due to staff turnover and a transition in the Assessment Liaison position, these data were not collected during the 2022-2023 academic year. Implementation of an electronic survey is currently taking place and should provide new data for 2023-2024.

Results Status
No Results

Number of Students Assessed
0

USE OF ASSESSMENT RESULTS

Other
n/a