

ACADEMIC YEAR 2021-2022 / ANNUAL PROGRAM REVIEW (APR)

Mathematics B.S. Degree (general, computation, modeling & data science, and math biology)

This view always presents the most current state of the plan item.

Plan Item was last modified on 1/6/22, 10:40 AM

Your individual permission settings determine what fields and content are visible to you.

Template:

Student Learning Assessment Report (add one "plan item" for each major, degree, and/or certificate offered by dept)

Name of degree/major or credential (example: Psychology BA/BS):

Mathematics B.S. Degree (general, computation, modeling & data science, and math biology)

Assessment Cycle State Date:

3/1/2021

Assessment Cycle End Date:

7/1/2022

Progress:

Section Completed, Waiting for Feedback

Providing Department:

Math & Statistical Sci

Responsible Users:

Assessment Report Contact:

Hirotschi Abo

Program Changes in Past Year:

1. Created of two undergraduate courses to strengthen/update the modeling option; Math 183 (Introduction to Data Science in Python) and Math 483 (Foundation of Machine Learning).
2. Changed the title "Quantitative Modeling Option" to "Modeling and Data Science Option" and modified the courses requirements.

Learning Outcomes are Communicated to All Students in Program (check box if true):

true

Learning Outcomes are Communicated to All Faculty (check box if true):

true

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

Critical Thinking: Students should be able to think critically, apply problem solving strategies, and be able to construct and defend mathematical proofs.

Direct measure: Exam questions from Math 461 and Math 480.

The benchmark is that at least 70% of math majors will demonstrate appropriate critical thinking skills in Math 461 and Math 480.

The stretch benchmark is that at least 80% of math majors will demonstrate appropriate critical thinking skills in the aforementioned courses.

- 72% of the math major students in Math 461 received an "above-sufficient" rating.
- 42% of the math major students in Math 480 received an "above-sufficient" rating.
- 64.71% of the math major students in these courses received an "above-sufficient" rating.

Indirect measure: Student self-assessment in exit interviews. The benchmark is that at least 50% of students expressed confidence in attaining the learning outcome in critical thinking. The stretch benchmark is that at least 80% of students expressed confidence in attaining the learning outcome in critical thinking.

- Only two students responded to the exit survey. One of them expressed confidence in attaining the above-mentioned learning outcome.

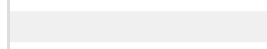

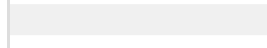
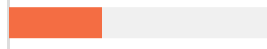
1.

Critical Thinking

University of Idaho Mathematics majors should be able to think critically, apply problem solving strategies, and be able to construct and defend mathematical proofs.

Academic Year 2020-2021: **Mathematics - General Option (B.S.)**

Term: **Overview**

Exceeded		0%	0
Met		64.71%	11
Partially Met		0%	0
Not Met		35.29%	6

Summary of Student Learning:

The ordinary benchmark was not met for the direct, but it was met for three indirect measures. However, the stretch benchmark was not met for both measures. Based on the last assessment cycle's finding, only 43% of mathematics majors in Math 461 satisfactorily completed the baseline objective. Thus, we see some improvement from last year. Since we just started collecting data from Math 480 this year, we do not have past data on Math 480 students' performance to compare with.

Attached Files

[MATH 461 Fall 2020 REPORT.doc](#)

[Math480_Sp2021_Final_v2.pdf](#)

Summary of Faculty Discussion:

Exam questions from Math 415 were suggested as a direct measure for the learning outcome in critical thinking because it is a senior experience course and taken by many students in different options.

Attached Files

There are no attachments.

Summary of Changes/Improvements Being Considered:

- Because of the pandemic of COVID-19, the exit interviews were conducted using Microsoft Forms, which caused a very low response rate. The improvement of student participation in exit interviews is necessary for more meaningful participation.
- In the past several years, we collected data on Math 215 students' performance for the learning outcome in critical thinking. We changed it to Math 480 to assess students' critical thinking skill across the options.

Attached Files

There are no attachments.

Inter-rater Reliability:

The assessment committee will review and implement changes to procedure for assessment processes.

Closing the Loop:

- Develop at one additional learning outcome for each option.
- Assess the learning outcome on modeling next year.
- Conduct exit interviews in person to increase participation.

Attached Files

There are no attachments.

Quality Assessment Feedback:**Attached Files**

[QAR Feedback Report COS Math General BS 2021-22.pdf](#)

Related Items

No connections made

© 2022 Anthology Inc.