

Q1.

GCU Academic Program Assessment Plan - Plan Updates

Please complete the program assessment plan. The format is similar to your previous plans, but is adapted to make fuller use of AEFIS. If you need assistance, please contact the [Office of Assessment](#). You can enter data in this form at one time or return to the survey to complete, using the same computer and original link. Once you submit, that action is final. You will receive a copy of your submittal.

Be sure to review academic program outcomes for appropriate rigor (Bloom's taxonomy) and assessable results. Avoid vague or general statements that cannot be quantified or measured. This plan can cover a three- to five-year time frame.

Note 1: Graduate programs need only complete summative assessment data.

Note 2: If the program has more than 5 learning outcomes, you will be directed to part B of the survey to enter the information on the additional outcomes (up to 10 total).

The update of Academic Program Assessment Plans are due by September 30.

Please contact the Office of Institutional Assessment and Accreditation with any questions or for further guidance.

Q2. Person completing the report

Last Name

Schaefer

First Name

Beth

Q3. Email address of person completing the report

schaeferb@georgian.edu

Q4. Program Name

Mathematics

Q5. School or Department

- School of Arts and Sciences
- School of Business and Digital Media

- School of Education
- HMH School of Nursing and Wellness at GCU
- University Wide Program (name below)

Q6. Email address and name of Dean of School or Department Supervisor

Name of Dean/Supervisor

Email address of Dean/Supervisor

Q7. Level of Program

- Undergraduate Major
- Graduate-Masters
- Graduate-certificate only
- Undergraduate-University wide
- other, please specify

Q8. Assessment Plan for years

- 3 years starting 2022
- 4 years starting 2022
- 5 years starting 2022
- Other

Q9. Indicate the name of the major(s), minor(s), and the associated degree(s) for this academic program.

Major(s)

Degree(s)

Minor(s)

Q10. State your learning outcomes (Up to five in this section, additional outcomes can be added to part B of the survey)



Learning Outcome (LO) 1

Students will perform, understand, and apply the properties of mathematical operations through assignments and testing in the program's core coursework

Learning Outcome (LO) 2

Students will produce solutions of real world and theoretical problems in a precise and logical fashion and identify key mathematical structures through assignments, presentations and testing in the program's core coursework

Learning Outcome (LO) 3

Students will communicate effectively orally and in writing and develop skills for productive teamwork through assignments/projects, presentation and testing in the program's core coursework

Learning Outcome (LO) 4

Students will use computer-aided technology to visualize mathematical graphs and functions, and support problem solving with accuracy, be facile with technology usage and functions, and be discriminate in the use of programming and applications, as evidence in assignments, presentations, and testing in the program's core coursework

Learning Outcome (LO) 5

Q11. Related USLG-Undergraduate Student Learning Goals. Align the program learning outcomes stated above with the associated USLG, if appropriate.

	Foundational Knowledge of Human Cultures and the Physical and Natural World	Intellectual and Practical Skills	Personal and Social Responsibility	Integrative Learning	Mastery of a Defined Body of Knowledge at a Baccalaureate Level
Learning Outcome 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning Outcome 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learning Outcome 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Learning Outcome 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learning Outcome 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q12. Related GSLG-Graduate Student Learning Goals. Align the learning outcomes stated above with the associated GSLG.

This question was not displayed to the respondent.

Q13. Related BRIDGE-General Education Goals

This question was not displayed to the respondent.

Q14. Related Accreditation Standard (if applicable) State the standard/goal and check the alignment with your program outcome(s). (Example: Learning Outcome (LO) 1: Text entry: NJSPEL Standard 1)

Learning Outcome (LO) 1

Learning Outcome (LO) 2

Learning Outcome (LO) 3

Learning Outcome (LO) 4

Learning Outcome (LO) 5

Q15. Course Mapping. Program Courses and Experiential Learning mapping to Program Outcomes. Map **all** program courses to the program's learning outcomes here. List courses with short catalog name, i.e. EN101. Please check to see if all program courses are mapped to at least one program outcome. If the program has more than 5 outcomes, this mapping will continue in part B.

How do students learn this? In what course(s) and/or co-curricular experience(s)?

Learning Outcome (LO) 1

MA115, MA116, MA209, MA210, MA215, MA218, MA331, MA400, MA401

Learning Outcome (LO) 2

MA115, MA116, MA209, MA215, MA321, MA331, CS123

Learning Outcome (LO) 3

MA210, MA215, MA311, MA312, MA312, MA321, MA400, MA401

Learning Outcome (LO) 4

MA115, MA116, MA209, MA331, CS123

Learning Outcome (LO) 5

Q16.

Formative Assessment will occur in.....

Designate the selected course(s) from above mapping where evidence will be collected. These courses will have a signature assignment aligned with your assessment plan. Choose up to two courses per outcome. Try not to repeat courses.

Learning Outcome (LO) 1

MA115

Learning Outcome (LO) 2

MA116

Learning Outcome (LO) 3

MA210

Learning Outcome (LO) 4

MA115 and CS123

Learning Outcome (LO) 5

Q17. Name the signature assignment aligned with formative assessment in the previous question. Give the name of the course and the assignment. Example: EN 490: Final Course Paper assessed with the GCU Writing Rubric.

- Course 1/ LO1 Selected class assignments evaluated by rubric and content analysis
- Course 2/ LO1
- Course 1/ LO2 Embedded questions that measure student solutions of real-world problems, evaluated by rubric and content analysis
- Course 2/ LO2
- Course 1/ LO3 Selected class assignments evaluated by rubric and content analysis
- Course 2/ LO3
- Course 1/ LO4 In-class technology based assignment evaluated by a rubric
- Course 2/ LO4 In-class technology based assignment evaluated by a rubric
- Course 1/ LO5
- Course 2/ LO5

Q18.

Summative Assessment will occur in.....

Designate the selected course(s) from above mapping where evidence will be collected. These courses will have a signature assignment aligned with your assessment plan. Choose up to two courses per outcome. Try not to repeat courses.

- Learning Outcome (LO) 1
- Learning Outcome (LO) 2
- Learning Outcome (LO) 3
- Learning Outcome (LO) 4
- Learning Outcome (LO) 5

Q19. Name the signature assignment aligned with summative assessment in the previous question. Give the name of the course and the assignment. Example: EN 490: Final Course Paper assessed with the GCU Writing Rubric.

- Course 1/ LO1 Final exam evaluated related to program content using Departmental approved rubric

<input type="checkbox"/>	Course 2/ LO1	
<input checked="" type="checkbox"/>	Course 1/ LO2	Final exam evaluated related to program content using Departmental approved rubric
<input type="checkbox"/>	Course 2/ LO2	
<input checked="" type="checkbox"/>	Course 1/ LO3	Final exam evaluated related to program content using Departmental approved rubric
<input checked="" type="checkbox"/>	Course 2/ LO3	Final exam evaluated related to program content using Departmental approved rubric
<input checked="" type="checkbox"/>	Course 1/ LO4	Final exam evaluated related to program content using Departmental approved rubric
<input type="checkbox"/>	Course 2/ LO4	
<input type="checkbox"/>	Course 1/ LO5	
<input type="checkbox"/>	Course 2/ LO5	

Q20. Direct Assessment: Satisfactory achievement will be based on assignment grading: below 70: did not meet expectations, between 70-85: meets expectations, at and above 85: exceeds expectations. Does this meet your program guidelines?

- Yes
 No

Q21. What is your preference for assignment percentages for expected results?

- Does not meet expectations
 Meets expectations 75%
 Exceeds expectations

Q22. Assessment Protocol. What indirect evidence will you collect for your program's formative assessment of learning outcomes? Indirect evidence can include: student surveys (course feedback), course grades, course pass rates, etc. What are your benchmarks for this data? (Ex. 70% of students complete course feedback with resulting mean score of 4.3 out of 5)

Formative Assessment

Indirect Evidence 1

Benchmark for Evidence 1

Indirect Evidence 2

Benchmark for Evidence 2

LO 1	DFW Rates	Below 15%		
LO2	DFW Rates	Below 15%		
LO3	DFW Rates	Below 15%		
LO4	DFW Rates	Below 15%		
LO5				

Q23. Assessment Protocol. What indirect evidence will you collect for your program's summative assessment of learning outcomes? Indirect evidence can include: student surveys (course feedback), course grades, course pass rates, graduation rates, etc.

Summative Assessment

	Indirect Evidence 1	Benchmark for Evidence 1	Indirect Evidence 2	Benchmark for Evidence 2
LO 1	DFW Rates	Below 15%		
LO2	DFW Rates	Below 15%		
LO3	DFW Rates	Below 15%		
LO4	DFW Rates	Below 15%		
LO5				

Q24. Program Assessment Time Frame: Time Frame for Assessing the outcome. Indicate the year of the plan where the data will be analyzed. Also indicate if data will be collected annually. This is helpful for gathering assessment artifacts from small classes or groups.

	Year 1 of Plan	Year 2 of Plan	Year 3 of Plan	Year 4 of Plan	Year 5 of Plan	Data collected annually
Learning Outcome 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning Outcome 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning Outcome 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning Outcome 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning Outcome 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q25. Number of program learning outcomes.

- 5 or less
- more than 5

Q26. State your additional learning outcomes

This question was not displayed to the respondent.

Q27. Related USLG-Undergraduate Student Learning Goals. Align the program learning outcomes stated above with the associated USLG.

This question was not displayed to the respondent.

Q28. Related GSLG-Graduate Student Learning Goals. Align the learning outcomes stated above with the associated GSLG.

This question was not displayed to the respondent.

Q29. Related BRIDGE-General Education Goals

This question was not displayed to the respondent.

Q30. Related Accreditation Standard (if applicable) State the standard/goal and check the alignment with your program outcome(s). (Example: Learning Outcome (LO) 1: Text entry: NJSPEL Standard 1)

This question was not displayed to the respondent.

Q31. Course Mapping. Program Courses and Experiential Learning mapping to Program Outcomes. Continue to map **all** program courses to the program's learning outcomes here. List courses with short catalog name, i.e. EN101. Please check to see if all program courses are mapped to at least one program outcome.

How do students learn this? In what course(s) and/or co-curricular experience(s)?

This question was not displayed to the respondent.

Q32.

Formative Assessment will occur in.....

Designate the selected course(s) from above mapping where evidence will be collected. These courses will have a signature assignment aligned with your assessment plan. Choose up to two courses per outcome. Try not to repeat courses.

This question was not displayed to the respondent.

Q33. Name the signature assignment aligned with formative assessment in the previous question. Give the name of the course and the assignment. Example: EN 490: Final Course Paper assessed with the GCU Writing Rubric.

This question was not displayed to the respondent.

Q34.

Summative Assessment will occur in.....

Designate the selected course(s) from above mapping where evidence will be collected. These courses will have a signature assignment aligned with your assessment plan. Choose up to two courses per outcome. Try not to repeat courses.

This question was not displayed to the respondent.

Q35. Name the signature assignment aligned with summative assessment in the previous question. Give the name of the course and the assignment. Example: EN 490: Final Course Paper assessed with the GCU Writing Rubric.

This question was not displayed to the respondent.

Q36. **Assessment Protocol.** What indirect evidence will you collect for your program's formative assessment of learning outcomes? Indirect evidence can include: student surveys (course feedback), course grades, course pass rates, etc. What are your benchmarks for this data? (Ex. 70% of students complete course feedback with resulting mean score of 4.3 out of 5)

Formative Assessment

This question was not displayed to the respondent.

Q37. **Assessment Protocol.** What indirect evidence will you collect for your program's summative assessment of learning outcomes? Indirect evidence can include: student surveys (course feedback), course grades, course pass rates, graduation rates, etc.

Summative Assessment

This question was not displayed to the respondent.

Q38. **Program Assessment Time Frame:** Time Frame for Assessing the outcome. Indicate the year of the plan where the data will be analyzed. Also indicate if data will be collected annually. This is helpful for gathering assessment artifacts from small classes or groups.

This question was not displayed to the respondent.

Location Data

Location: ([40.0881](#), [-74.1195](#))

Source: GeolIP Estimation

