Assessment Data Mathematical, Information and Computer Sciences
Computer Information Technology (ADC)

Learning Outcome:

PLO: Students will be able to write about their work with precision, clarity and organization (Written Communication).

GELO 1a: Written: Students will be able to effectively express ideas and information to others through written communication.

Outcome Measure: Annual: Each student will be required to write a paper on a topic in their field as a part of their participation in the Information Technology Project (CIT4081). The audience for this talk will include department faculty, fellow students and possibly some alumni. The students will be given the evaluation criteria in advance of their presentation and will be rated by the faculty using a rubric with a scale of 4 (outstanding) to 1 (unsatisfactory) in the following areas:

- Structure
- Organization
- Grammar and spelling
- Depth of information
- Clarity of writing
- Bibliography and other supporting documentation

Criteria for Success: 80% of the students should have an average score of at least 2.5 in each of the major areas in the department rubric.

Aligned with DQP Learning Areas (circle one or more):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percent of Students At or Above 2.5					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Bibliography and Support	100%	100%	100%	100%	100%	100%
Organization	83%	100%	100%	100%	100%	96%
Grammar and Spelling	100%	100%	100%	100%	97%	100%
Depth of Information	100%	100%	100%	100%	100%	100%
Clarity of Writing	100%	100%	100%	100%	100%	100%

Conclusions Drawn from Data: Our students are meeting our standards.

Changes to be Made Based on Data: Continue to monitor student results.

Rubrics: MICS Writing Rubric: Next page.

MICS Written Presentation Rubric (12/31/22)

Criteria	Outstanding	High Satisfactory	Low Satisfactory	Unsatisfactory
Bibliography and supporting documents	☐ Multiple references from distinct reputable sources	☐ Most references from distinct reputable sources	☐ Some references from reputable sources	☐ No bibliography or all references from untrusted sites on the internet
	☐ References cited in the body of the document	☐ Some citation of references in the body of the document	☐ Limited citation of references in the body of the document	☐ No citation of references in the body of the document
Organization	☐ Conveys a central theme with all ideas connected, arrangement of ideas clearly related to topic	☐ Conveys a central idea or topic with some ideas connected to the topic	☐ Attempts to focus on an idea or topic with many ideas not connected to the topic	☐ Has little or no focus on central idea or topic
	☐ Clear introduction, body (with sections), and conclusion includes summary and closure	☐ Includes introduction, body and conclusion	☐ Introduction, body, conclusion detectable but not clear	☐ Introduction, body or conclusion absent
	☐ Includes both an abstract and table of contents	☐ Includes abstract and table of contents (one partial and one complete)	☐ Includes partial abstract and partial table of contents	☐ No abstract or table of contents
Grammar and spelling	☐ No use of first-person tense	☐ Few uses of the first-person tense	☐ Several uses of the first-person tense	☐ Written in first-person tense
	☐ No grammatical or spelling errors	☐ Few grammatical and spelling errors	☐ Some grammatical and spelling errors	☐ Many grammatical and spelling errors
Depth of information	☐ Highly accurate and substantive content	☐ Content is accurate, though key concepts are missing	☐ Content is flawed, and/or a significant number of key concepts are missing	☐ Content is significantly flawed and/or content is trivial
	☐ Appropriately synthesizes information from multiple distinct sources	☐ Synthesis of information from at least three distinct sources	☐ Synthesis of information from at least two distinct sources	☐ Summary reporting of information without synthesis
	☐ Draws conclusions and personal insights from synthesis	☐ At least two personal insights or conclusions stated	☐ At least one personal insight or conclusion stated	☐ No personal insights
	☐ Has the minimum number of pages including penalty pages; subject coverage is excellent	☐ Has the minimum number of pages including penalty pages; subject coverage is good	☐ Has the minimum number of pages including penalty pages; subject coverage is adequate	☐ Does not have the minimum number of pages including penalty pages
Clarity of writing	☐ Sentences flow	☐ Good sentence structure	☐ Occasional poor sentence structure	☐ Frequent poor sentence structure
	☐ Smooth transitions between paragraphs	☐ Adequate transitions between paragraphs	☐ Transitions between paragraphs unclear	☐ Lacked transitions between paragraphs
	☐ Any and all terms and acronyms are defined	☐ Most terms and acronyms are defined	☐ Some terms and acronyms are defined	☐ Many terms and acronyms are undefined
	☐ Provides evidence to support points	☐ Lacks support for some points	☐ Provides minimal support for points	☐ Ideas not supported

Assessment Data Mathematical, Information and Computer Sciences
Computer Information Technology (ADC)

Learning Outcome:

PLO: Students will be able to speak about their work with precision, clarity and organization (Oral Communication).

GELO 1b: Oral: Students will be able to effectively express ideas and information to others through oral communication.

Outcome Measure: Annual: Each student will be required to give an oral presentation on a topic in their field as a part of their participation in the Information Technology Project (CIT4081). The audience for this talk will include department faculty, fellow students and possibly some alumni. The students will be given the evaluation criteria in advance of their presentation and will be rated by the faculty using a rubric with a scale of 4 (outstanding) to 1 (unsatisfactory) in the following areas:

- Command of background material
- Organization
- Oral presentation skills
- Use of presentation tools
- Ability to field questions from the audience

Criteria for Success: 80% of the students should have an average score of at least 2.5 in each of the major areas in the department rubric.

Aligned with DQP Learning Areas (circle one or more):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percent of Students at or Above 2.5					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Background	100%	100%	97%	100%	97%	100%
Organization	100%	100%	100%	100%	100%	96%
Oral Presentation Skills	100%	100%	100%	100%	97%	100%
Presentation Tools	100%	100%	100%	97%	100%	100%
Ability to Field Questions	100%	100%	100%	97%	100%	100%

Conclusions Drawn from Data: Our cohorts are consistently meeting the benchmark. This is not surprising since we have students give oral presentations in most classes.

Changes to be Made Based on Data: None at this time, we continue to monitor student achievement.

Rubric: See the following page.

Oral Presentation Rubric Update (4/12/17)

Criteria	Outstanding	High Satisfactory	Low Satisfactory	Unsatisfactory
Command of background material	☐ Clearly knows material and key facts by memory	☐ Clearly knows key facts with a few memory slips	☐ Reads some information; knows some facts from memory	☐ Reads sentences from slides
	☐ Expands on PPT slides	☐ Some expansion on PPT slides	☐ No expansion of PPT slide content	☐ Dependent on notes
	☐ Content appropriate for audience	☐ Partial audience adaptation of content	☐ Little audience adaptation of content	☐ Lacks audience adaptation of content
Organization	☐ Clear and concise outline	☐ Clear outline	☐ Some sense of outline	☐ No clear outline
	☐ Relevant graphics and key text items on slides	☐ Too much information on slides (not concise)	☐ Too much detailed information on slides	☐ Slides are in paragraphs; too much detailed information on one slide
	☐ Presentation is between 10-15 minutes	☐ Presentation 1 minute outside of the range (10-15 minutes)	☐ Presentation 2 minutes outside of the range (10-15 minutes)	☐ Presentation 3 minutes outside of the range (10-15 minutes)
Oral presentation skills	☐ Clearly has practiced several times; smooth transitions	☐ Has practiced but transitions are not smooth	☐ Has practiced presentation but cannot verbally make transitions between slides	☐ Clearly did not practice presentation; Does not anticipate content of next slide
	☐ Engages audience in content multiple times and engagement is well connected to talk (questions, examples, etc.)	☐ Engages audience at least twice in content (questions, examples, etc.)	☐ Audience engagement at least once with content (questions, examples, etc.)	☐ No audience involvement
	☐ Free of disfluencies (ah, uhm)	☐ A few disfluencies (ah, umh, er)	☐ Many disfluencies (ah, umh, er)	☐ Disfluencies (ah, umh, er) detract from presentation
	☐ Is clearly heard in the room and uses inflection for emphasis	☐ Can be understood most of the time and uses some inflection	☐ Can sometimes be understood and uses little inflection	☐ Can not be heard and/or speaks in a monotone
	☐ Engages audience through eye contact	☐ Some engagement of audience through eye contact	☐ Infrequent eye contact	☐ Little audience awareness or eye contact
	☐ Engages audience through gestures	☐ Some engagement of audience through gestures	☐ Distracting gestures or mannerisms	☐ Frequent distracting gestures or mannerisms
Use of presentation tools	☐ PPT background is matched to content, legible font, seamless transitions	☐ Appropriate PPT slide backgrounds, transitions & font	☐ Distracting PPT slide backgrounds and transitions, font hard to read	☐ No attention given to PPT slide backgrounds and transitions, font illegible
	☐ Graphics imbedded and matched to topic, necessary hyperlinks work	☐ Most graphics imbedded and matched to topic, most necessary hyperlinks work	☐ Some inappropriate graphics or use of PPT embellishments, necessary hyperlinks don't work	☐ Distracting use of embellishments, graphics not connected to topic
	☐ No typos or errors	☐ One or more typos or errors	☐ Three or more typos or errors	☐ Five or more typos or errors
Ability to field questions	☐ Able to answer questions clearly and without hesitation and prepared material to answer anticipated questions	☐ Can answer all questions with some hesitation	☐ Able to answer half of the questions with hesitation	☐ Unable to answer any questions

Assessment Data Mathematical, Information and Computer Sciences
Computer Information Technology (ADC)

Learning Outcome:

PLO: Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand (Information Literacy).

GELO 1c: Information Literacy: Students will be able to access and cite information as well as evaluate the logic, validity, and relevance of information from a variety of sources.

Outcome Measure: Annual: Each student will be required to write a paper on a topic in their field as a part of their participation in the Information Technology Project Seminar (CIT4081). The audience for this talk will include department faculty, fellow students and possibly some alumni. The students will be given the evaluation criteria in advance and their paper will be rated by the faculty using a rubric with a scale of 4 (outstanding) to 1 (unsatisfactory) in the following areas:

- References: Multiple references from distinct reputable sources
- Citation: References cited in the body of the document
- Synthesis: Appropriately synthesizes information from multiple distinct sources

Criteria for Success: 80% of the students should have an average score of at least 2.5 in each of the major areas.

Aligned with DQP Learning Areas (circle one or more):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percent of Students at or Above 2.5					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
References	100%	100%	100%	100%	100%	100%
Citation	100%	100%	100%	100%	100%	100%
Synthesis	100%	100%	100%	100%	100%	100%

Conclusions Drawn from Data: Our graduates are meeting our expectations.

Changes to be Made Based on Data: Continue to monitor the progress.

Rubric: We used the applicable parts of the writing rubric.

MICS Written Presentation Rubric (12/31/22)

Criteria	Outstanding	High Satisfactory	Low Satisfactory	Unsatisfactory
Bibliography and supporting documents	☐ Multiple references from distinct reputable sources	☐ Most references from distinct reputable sources	☐ Some references from reputable sources	☐ No bibliography or all references from untrusted sites on the internet
	☐ References cited in the body of the document	☐ Some citation of references in the body of the document	☐ Limited citation of references in the body of the document	☐ No citation of references in the body of the document
Organization	☐ Conveys a central theme with all ideas connected, arrangement of ideas clearly related to topic	☐ Conveys a central idea or topic with some ideas connected to the topic	☐ Attempts to focus on an idea or topic with many ideas not connected to the topic	☐ Has little or no focus on central idea or topic
	☐ Clear introduction, body (with sections), and conclusion includes summary and closure	☐ Includes introduction, body and conclusion	☐ Introduction, body, conclusion detectable but not clear	☐ Introduction, body or conclusion absent
	☐ Includes both an abstract and table of contents	☐ Includes abstract and table of contents (one partial and one complete)	☐ Includes partial abstract and partial table of contents	☐ No abstract or table of contents
Grammar and spelling	☐ No use of first-person tense	☐ Few uses of the first-person tense	☐ Several uses of the first-person tense	☐ Written in first-person tense
	☐ No grammatical or spelling errors	☐ Few grammatical and spelling errors	☐ Some grammatical and spelling errors	☐ Many grammatical and spelling errors
Depth of information	☐ Highly accurate and substantive content	☐ Content is accurate, though key concepts are missing	☐ Content is flawed, and/or a significant number of key concepts are missing	☐ Content is significantly flawed and/or content is trivial
	☐ Appropriately synthesizes information from multiple distinct sources	☐ Synthesis of information from at least three distinct sources	☐ Synthesis of information from at least two distinct sources	☐ Summary reporting of information without synthesis
	☐ Draws conclusions and personal insights from synthesis	☐ At least two personal insights or conclusions stated	☐ At least one personal insight or conclusion stated	☐ No personal insights
	☐ Has the minimum number of pages including penalty pages; subject coverage is excellent	☐ Has the minimum number of pages including penalty pages; subject coverage is good	☐ Has the minimum number of pages including penalty pages; subject coverage is adequate	☐ Does not have the minimum number of pages including penalty pages
Clarity of writing	☐ Sentences flow	☐ Good sentence structure	☐ Occasional poor sentence structure	☐ Frequent poor sentence structure
	☐ Smooth transitions between paragraphs	☐ Adequate transitions between paragraphs	☐ Transitions between paragraphs unclear	☐ Lacked transitions between paragraphs
	☐ Any and all terms and acronyms are defined	☐ Most terms and acronyms are defined	☐ Some terms and acronyms are defined	☐ Many terms and acronyms are undefined
	☐ Provides evidence to support points	☐ Lacks support for some points	☐ Provides minimal support for points	☐ Ideas not supported

Assessment Data Mathematical, Information and Computer Sciences
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Learning Outcome: Students will be able to apply their technical knowledge and critical thinking to solve problems (Critical Thinking).

GELO 1d: Critical Thinking: Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions.

Outcome Measure: Pass rates on certification exams.

Criteria for Success:
By the end of their 4th term:

- 80% of the students will be at or above 90% of the score needed to pass the CompTIA A+ exam.
- 80% of the students will be at or above 90% of the score needed to pass one additional CompTIA certification exam.

70% of the students will be marginal or proficient at Level 2 Reading/Critical Thinking.

Aligned with DQP Learning Areas (circle one or more):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	2018-19	2019-20	2020-21	2021-22	2022-23
Percentage at or Above 90% of CompTIA A+ Exam Passing Score	87%	68%	73%	71%	88%
Percentage at or Above 90% for at Least One of CompTIA Network+, Security+ or Project+ Exam Passing Score	94%	86%	85%	87%	93%

Conclusions Drawn from Data: The students have been consistently meeting our criteria on their second certification exam. The students have been inconsistent in meeting the criteria on the A+ exam, but are generally close to our target.

Changes to be Made Based on Data: The A+ certification has two component exams. After some analysis, we have changed the class that supports preparation for these two exams from one to two units to help the students prepare more effectively. This change will be begin in the fall of 2023.

Rubric: Since these are online exams provided by CompTIA, there is no rubric.

Assessment Data Mathematical, Information and Computer Sciences
Computer Information Technology (ADC)

Learning Outcome:

PLO: Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats (Quantitative Reasoning).

GELO 1e: Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.

Outcome Measure:
2022-23 and beyond: Annual: Signature assignment on a database in CIT3054 (Database Design)

Before Fall 2022: Annual: Each student will participate in the ETS Proficiency Profile exam.

Criteria for Success:
2022-23 and beyond: 80% of the students should have an average score of at least 2.5 in each of the major areas.

Before Fall 2022: 70% of the students will be Marginal or Proficient at Level 2.

Aligned with DQP Learning Areas (circle one or more):
1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percent of Students at or Above 2.5
	2022-23
Recognition of Relevant Information	64%
Correctness of Query	21%

	Percentage of Students Marginal or Proficient				
	2017-18	2018-19	2019-20	2020-21	2021-22
ETS Proficiency Profile Level 2 Quantitative Reasoning	60%	39%	50%	55%	39%

Conclusions Drawn from Data: The students are not meeting our benchmark. The high degree of variability has led us to look at the skills which are being measured by the ETS

assessment tool. The skills being measured are similar to those that are developed in College Algebra. Because most of our students obtain their mathematics education before coming to PLNU, this does not seem like an accurate assessment of skills that the students are acquiring while at PLNU. This led us to identify a different way to assess student skills.

Changes to be Made Based on Data: The department concluded that the ETS exam is not a good measure of quantitative literacy for students in the field of information technology. We have designed a signature assignment and pilot tested it in the 2022-23 academic year. The questions were placed at the end of the final exam and some of the students didn't attempt them (3 of 23 didn't do either problem, 5 of the 23 students only did one problem), so we were left with incomplete data. We will adjust the placement of the questions in the final exam for the next academic year and see if that improves the results both in terms of the number of people who complete the problems and the time that students spend on the problems.

Rubrics
ETS Proficiency Profile (no rubric involved).

Rubric for the signature assignment is on the following page.