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# ASSESSING UH-WEST O'AHU PROVISIONAL ACCREDITATION OF THE BS-NATURAL SCIENCES PROGRAM THROUGH FACULTY ENGAGEMENT AND RUBRIC ANALYSIS: FINDINGS AND CHALLENGES

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### Introduction

This assessment project describes how the Mathematics, Natural and Health Sciences Division faculty at the University of Hawai'i - West O'ahu (UHWO) made efforts to assess and implement faculty engagement of the Bachelor of Science - Natural Sciences (BS-NS) program as the division pursues established accreditation from its provisional status. The degree Learning Outcomes were identified for assessment and faculty from three concentrations: Applied Mathematics, Life Sciences, and Health Sciences, evaluated rubrics used for artifact rating. Efforts to elevate the valuation and the impact of engagement through faculty self-efficacy will also be described.

### MNHS/BS-Natural Sciences Program Facts

- Total of 13 faculty members
- Number of students: 48
- 3 Concentrations: Applied Mathematics, Life Sciences, and Health Sciences
- Number of graduates every year: 1-5 (Applied Mathematics only)
- This program was established in 2020

### BS-NS SLOs Being Assessed in 2024

1. To communicate scientific ideas clearly in written and oral formats.

### BS-NS Student Learning Outcomes

1. Students will be able to communicate scientific ideas clearly in written and oral formats.
2. Students will be able to understand how to find, read, and critically review scientific literature.
3. Students will be able to analyze data effectively using current methods and technology.
4. Students will be able to apply fundamental concepts and techniques in mathematics and sciences.

### Faculty Engagement Methods

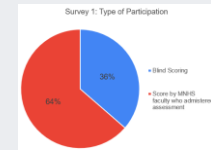
There are a variety of methods that have been suggested to increase faculty engagement with assessment. Finding the right one has been one of the challenges.

### Google Forms - Surveys

After the synthesis of the rubrics to assess DLO1, Faculty were asked for the following feedback:

1. Types of Participation in Artifact Evaluation
2. General Rubric Analysis and Feedback

### Results of Surveys



Faculty were first asked for how they would like the artifacts assessed: "Which method do you think would provide the most meaningful or informative results for making program level decisions?"  
Response rate: (11/13) – 85%

### Artifact submissions:

Artifacts submitted - Written



- Artifacts were submitted via Google docs and will be split into three categories
- Each artifact will be assessed voluntarily by faculty that advise in the following concentrations: Applied Mathematics, Life Sciences, and Health Sciences

### BS-NS Evaluation Rubric for Written Communication

	Highly Proficient	Proficient	Developing	Not Proficient	Needs Most Basic Level Performance
	Meet the expectations but also substantially exceed them	Meet the expectations	Meet most expectations but not all three	Exceeds but still meets some or basic level of expectations	
<b>Content and Purpose for Writing</b>	Demonstrates thorough understanding of content (scientific/mathematical/professional/health-related topics, audience, and purpose) that is responsive to the assigned task and focuses on all elements of the work	Demonstrates adequate comprehension of content (scientific/mathematical/professional/health-related topics, audience, and purpose) that is responsive to the assigned task (e.g., the task aligns with audience, purpose, and content)	Demonstrates adequate comprehension of content (scientific/mathematical/professional/health-related topics, audience, and purpose) that is responsive to the assigned task	Demonstrates adequate comprehension of content (scientific/mathematical/professional/health-related topics, audience, and purpose) that is responsive to the assigned task	Demonstrates minimal comprehension of content (scientific/mathematical/professional/health-related topics, audience, and purpose) that is responsive to the assigned task
<b>Content Development</b>	Uses appropriate research and compelling content to illustrate key ideas within the context of the assigned task (e.g., audience, purpose, and content)	Uses appropriate research and compelling content to illustrate key ideas within the context of the assigned task	Uses appropriate research and compelling content to illustrate key ideas within the context of the assigned task	Uses appropriate research and compelling content to illustrate key ideas within the context of the assigned task	Uses appropriate research and compelling content to illustrate key ideas within the context of the assigned task
<b>Genre and Disciplinary Conventions</b>	Demonstrates excellent attention to and successful execution of a writing genre (e.g., scientific/mathematical/professional/health-related topics) and/or writing task (e.g., including organization, content presentation, formatting, and stylistic choices)	Demonstrates consistent use of disciplinary conventions particular to the assigned task (e.g., scientific/mathematical/professional/health-related topics) and/or writing task (e.g., including organization, content presentation, formatting, and stylistic choices)	Fulfills expectations appropriate to the assigned task (e.g., scientific/mathematical/professional/health-related topics) and/or writing task (e.g., including organization, content presentation, formatting, and stylistic choices)	Attempts to use a consistent genre but lacks organization and presentation.	Attempts to use a consistent genre but lacks organization and presentation.
<b>Sources and Evidence</b>	Demonstrates skillful use of highly credible, relevant sources to develop ideas that are situated within the context of the assigned task (e.g., scientific/mathematical/professional/health-related topics)	Demonstrates consistent use of credible, relevant sources to develop ideas that are situated within the context of the assigned task (e.g., scientific/mathematical/professional/health-related topics)	Demonstrates an attempt to use credible, relevant sources to support ideas that are appropriate within the context of the assigned task (e.g., scientific/mathematical/professional/health-related topics)	Demonstrates an attempt to use sources to support ideas that are appropriate within the context of the assigned task (e.g., scientific/mathematical/professional/health-related topics)	Demonstrates an attempt to use sources to support ideas that are appropriate within the context of the assigned task (e.g., scientific/mathematical/professional/health-related topics)
<b>Control of Syntax and Mechanics</b>	Uses technical language that reflects the complexity of the task and demonstrates excellent control of syntax and mechanics	Uses technical language that reflects the complexity of the task and demonstrates consistent control of syntax and mechanics	Uses technical language that reflects the complexity of the task and demonstrates adequate control of syntax and mechanics	Uses technical language that reflects the complexity of the task and demonstrates adequate control of syntax and mechanics	Uses technical language that reflects the complexity of the task and demonstrates adequate control of syntax and mechanics

### Rubric Feedback

- Faculty were asked to provide feedback on each dimension on the rubric
- Response rate: (5/13) – 38%
- Feedback:
  - Typos
  - Clarification on descriptions for each dimension

### Action Plans/Next Steps

- Faculty will be given pre/post-reflections on their experience with assessment through support and guidance by the division assessment coordinator(s)
- Modeling how assessment can be useful will be beneficial and positive for faculty
- The information will help put together the first program review