Horticulture, PhD

Program Description: The PhD program in Horticultural Sciences exists to provide an advanced science-based education for students through innovative teaching and directed horticultural research experiences. The program encompasses basic genetic, physiology, production, processing and utilization of horticultural products including fruits, vegetables, flowers, and landscape plants. The overall goal is to provide the student with a strong science-based background in the areas of horticulture, physiology, genetics, production, etc. for a future in research either in industry, academia or government positions.

Outcome 1 – Effective Communication: Graduates will be able to effectively communicate, both orally and in written form, the results of horticultural research and experiences as it relates to their specific field of horticulture.

Measure 1.1 – Annual Graduate Student Assessment: Each academic year, an assessment between the graduate chair and student will occur to assess yearly course progress, dissertation research results and set goals/benchmarks for the coming year. [Attached a standard evaluation form with items for assessing each PLO]

Target 1.1: This measure examines all of our students who are at various stages within their program. Some of the students have only been through 1 semester of the program while others are close to completion. Due to the stage of where each student currently is within the program, we believe not all students will meet expectations for effective communication, especially our international students where English is not their native language. Therefore we have set a target of 75% of PhD graduate students will obtain a minimum of “meets expectations” on questions 3 and 4 on the Annual Assessment of Graduate Student form by their faculty adviser.

Finding 1.1: Met

100% of Doctoral graduate students earned a "meets expectations" or better on question 3 & 4 of annual graduate student assessment. It is clear that our faculty advisors believe their PhD students are meeting expectations with regards to their students communication skills although discussions have centered around providing the students with more formal writing opportunities which has been incorporated into our data-driven action plan. This trend has been seen over several assessment cycles, however, adding a new writing course was still seen as a positive curricular improvement.

Data-Informed Action 1.1: Although the target was met, we believe our students need additional opportunities to improve on both their oral and written communication skills as many of our PhD students intend to stay in academia where writing is critical. To this end, one of our faculty members submitted a course entitled “Competitive Proposal Writing in Agriculture” through CARS for addition to the 2021-2022 catalog. Our plan is to heavily advertise this course to our PhD students each fall when it is taught and to discuss the importance of writing intensive courses to our graduate faculty at our yearly graduate faculty retreat. Our graduate faculty retreat will be held in spring 2021 and this new course should be offered beginning in fall 2021.
Measure 1.2 – Committee Evaluation of Graduate Learning Outcomes: At the final defense each committee member will complete a Graduate Student Evaluation to assess the student’s performance relative to the COALS learning outcomes for graduate students. The student will perform their own assessment as well.

Target 1.2: This target is assessing our PhD candidates at the completion of their program. Thus we believe at this stage of their program 100% of PhD candidates demonstrate an average of at least "meets expectations" on learning objectives 4, 5 and 10 on the graduate student evaluation form.

Finding 1.2: Met

100% of doctoral students earned a "meets" on learning outcome 4, 5, and 10 of graduate student assessment form. We have consistently seen that our doctoral students meet expectations on these learning outcomes over several of the past assessment cycles. However, our faculty believe that having more formal writing opportunities including the addition of a proposal writing course will still be valuable to our students as they progress through their degree.

Data-Informed Action 1.2: Although the target was met, we believe our students need additional opportunities to improve on both their oral and written communication skills as many of our PhD students intend to stay in academia where writing is critical. To this end, one of our faculty members submitted a course entitled "Competitive Proposal Writing in Agriculture" through CARS for addition to the 2021-2022 catalog. Our plan is to heavily advertise this course to our PhD students each fall when it is taught and to discuss the importance of writing intensive courses to our graduate faculty at our yearly graduate faculty retreat. Our graduate faculty retreat will be held in spring 2021 and this new course should be offered beginning in fall 2021.

Outcome 2 – Written Communication - COVID: Graduates will be able to effectively communicate, both orally and in written form, the results of horticultural research and experiences as it relates to their specific field of horticulture.

Measure 2.1 – Written Communication Program Assessment Toolkit: The Written Communication Program Assessment Toolkit was developed by OIEE. It was designed as a structured, facilitated approach to assessing written communication skills in the context of an academic program and was open to all programs and academic certificates, regardless of level. The program submitted student written work to OIEE for scoring on a comprehensive written communication rubric. The criteria (sub-skills) on the rubric are: Context and Purpose for Writing; Content Development; Organization; and Conventions and Style. The Horticulture PhD program was assessed using this Toolkit.

Target 2.1: For doctoral level students nearing the end of their academic program, the following two targets indicate the expected level of performance on this rubric:

1. The overall average score of each criterion is 8 or higher.
2. At least 60% of students will achieve a score of 8 or higher on all four criteria.
Finding 2.1: Not Met

The expected performance for doctoral level graduate students, collectively, is an average score of 8 or higher for each criterion. The criterion averages ranged from 5.8 to 7.3. This target is Not Met. Context and Purpose and Content Development, with scores of 7.3 and 7.1, respectively, fell between Proficient and Advanced. Performance on Conventions and Style was Proficient (6.2). Performance on Organization (5.8) fell just below the Proficient level.

At least 60% of student artifacts were expected to earn a score of 8 or higher across all four criteria. No artifacts met this goal, therefore the target is Not Met. 50% of artifacts earned a 4 or 5 on Organization.

Data-Informed Action 2.1: This activity was added to the 2019-2020 cycle due to COVID. Writing samples from six PhD students were assessed by OIE&E using a rubric. Based on their findings, our PhD students are struggling with organization in their written communication samples as 50% of artifacts in this sample did not exceed a score of 5 on this criterion. This will require follow up with our graduate faculty at our yearly retreat. Although we have added a new course called "Competitive Proposal Writing in Agriculture" to our graduate course listing for the 2021-2022 graduate catalog, we will need to stress to those faculty who incorporate writing into their courses, that organization needs to be a focus area when discussing proposal writing to the students and within their rubrics. Additionally, we will discuss including University Writing Center workshops within these courses to include topics on writing organization. We believe these actions will help improve our students’ ability to properly organize their written artifacts. We will have a graduate faculty retreat in spring 2021 to discuss this issue and will ask our faculty to examine their evaluation rubrics for writing samples at that time to see what changes need to be implemented with regards to evaluating the student's organization skills within their writing samples.