

Program Review Report

Program: Certificate sUAS Drone Technology

College: Arts & Human Sciences

Review Date: February 3, 2023

A program review for sUAS Drone Technology, offered as a certificate via the Arts & Human Sciences department, was presented to the Program Review Committee by Mr. Mateo Frazier on Feb 3, 2023.

Many recommendations come from peer reviewers using a [piloted rubric](#) to rate the strengths and weaknesses of the program. Beginning on page 2 is a list of criterion reviewers scored as 50% or more in either “early development” or “fails to meet” criteria on the Program Review Rubric. The listed criterion include factual evidence stated in the program review narrative or information provided during the subsequent presentation. This is followed by recommendations and expectations for improvement provided by peer reviewers. Note: Gray’s Associates documentation, a requirement of program analysis, is not available.

The current program fails to meet quality standards and the department, as is evidenced in a memo dated April 3, 2023, recommends the certificate should be terminated. If the program is to be eliminated, the department must follow the established Teach-Out Process.

A handwritten signature in dark ink, appearing to read "T. H. Frazier", is located below the main text of the report.

sUAS Drone

Criterion 2

Rubric Category 2.1 Describe how the program level student learning outcomes pertain to the program's mission. Have any changes been made to these outcomes since the last review or in the last 5-7 years? Why or why not? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Program was only offered twice, so no data to show changes in PSLOs. No discussion on how PSLOs relate to mission. One PSLO has 3 verbs, which you cannot measure. You cannot measure "knowledge".

Recommendations for Improvement: Need to offer the program to collect additional data. Relate mission to program outcomes. Need to revise PSLOs using Bloom's taxonomy and use only one verb per learning outcome.

Rubric Category 2.2 Provide documentation and describe the extent to which students in the program have met these outcomes. **100% Early Development/Fails to Meet Criterion**

Factual Observation: The assessment review cycle is not clear. No data presented, insufficient data.

Recommendations for Improvement: Create a distinct assessment plan and collect data.

Rubric Category 2.3 Describe the course pathway students take to achieve this program degree. Be sure to highlight any key or core courses and provide Curriculum Efficiency documentation as evidence. Have any changes been made to this pathway or degree requirements since the last review or within the past 5 - 7 years? Why or why not? **67% Early Development/Fails to Meet Criterion**

Factual Observation: No curriculum efficiency plan presented, but it appears to only be 2 courses.

Recommendations for Improvement: Present curriculum efficiency analysis.

Rubric Category 2.4 How is the program's curriculum developed? Describe the various methods of instruction used and how each method is evaluated for effectiveness, e.g., lecture, laboratory simulation, web-based, etc. Include a description of the program's use of technology to provide alternative delivery to time/place bound students? **67% Early Development/Fails to Meet Criterion**

Factual Observation: No discussion of how the various methods of instruction are evaluated for effectiveness.

Recommendations for Improvement: Need to discuss how instruction is evaluated.

Rubric Category 2.5 What types of evaluation tools are in place? Discuss the tools you've selected or developed to measure each program level student learning outcome. Why were these measures chosen? Were Any measures or assessment instruments changed since the last review or in the past 5-7 years? Why or why not? Will different measures be chosen the next time these outcomes are assessed? **100% Early Development/Fails to Meet Criterion**

Factual Observation: No formal assessment plan presented. No description of assessment measurements/tools.

Recommendations for Improvement: Need to develop a distinct assessment plan that includes a description of assessment evaluation tools.

Rubric Category 2.6 and 2.7 - 2.6 Summarize actions taken or improvement plans created based on assessment of student learning findings. How has the program improved its quality over time and what evidence supports that improvement? This section can include information on student achievement on targets as well as examples of how assessment plan results have driven improvements in teaching and learning. In addition to the program assessment completed through the annual reports and implementation plan, provide a description of contribution to General Education or Co-Curricular student learning outcomes. If applicable, evaluate the program's effectiveness in providing service courses to other majors. Include your assessment reports as evidence. 2.7 Summarize or highlight action items taken as a result of the program's assessment results. How have the results driven improvement? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Need to develop a distinct assessment plan that includes a description of assessment evaluation tools and assessment cycle, teach the program, and collect data.

Recommendations for Improvement: Need to close the assessment loop, and describe how assessment results drive program improvement.

Rubric Category 2.10 How do program faculty participate in assessment? What is the process? Have any changes been made to encourage participation since the last review or in the past 5-7 years? **100% Early Development/Fails to Meet Criterion**

Factual Observation: No information on how faculty participate in assessment.

Recommendations for Improvement: Need to outline how faculty participates in the assessment process.

Criterion 3

Rubric Category 3.1 What processes are in place to ensure that faculty have the qualifications to teach in the program? Have these processes changed since the last review or in the past 5-7

years? Complete and upload Table 3.1 as evidence of current faculty qualifications. **50% Early Development/Fails to Meet Criterion**

Factual Observation: Table 3.1 was not included so there was no evidence of faculty qualifications. We know faculty credentials are integrated into college processes and the information exists, but the evidence was not included.

Recommendations for Improvement: We recommend adding Table 3.1 to the Program Review as evidence of faculty qualifications.

Rubric Category 3.2 Summarize and highlight key scholarship and research activities, as they relate to the program, conducted by faculty since the last review or in the past 5-7 years. Discuss and highlight awards and honors received by faculty since the last review or in the past 5-7 years. **50% Early Development/Fails to Meet Criterion**

Factual Observation: The narrative explains how the department was approved to offer the program and received a distinguished approval rating. They also received the NSA grant funding to start the program.

Recommendations for Improvement: We recommend developing a plan for faculty to stay current in this rapidly changing field.

Rubric Category 3.3 List the professional organizations the program and faculty belong to; and provide an explanation for how the program supports faculty membership. Complete and upload Table 3.3 as evidence. **50% Early Development/Fails to Meet Criterion**

Factual Observation: Unmanned Aircraft Systems Collegiate Training Initiative is listed as a professional organization.

Recommendations for Improvement: We recommend adding more information on the professional organization that is identified.

Rubric Category 3.4 Summarize the workload and responsibilities of faculty as it pertains to the program. How often do the faculty participate in program/departmental meetings? Include minutes of meetings for the past year as evidence. **100% Early Development/Fails to Meet Criterion**

Factual Observation: The courses were not offered for a period of time, so minimal information was provided on faculty workload and program responsibilities.

Recommendations for Improvement: We recommend that a plan is developed to show when the courses will be offered and how the faculty cover the curriculum and develop the program.

Rubric Category 3.5 How are faculty being supported to ensure high quality teaching and learning? How are faculty being evaluated? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Since the courses were not being offered, the faculty were not being evaluated. However, the report did not explain methods of evaluation.

Recommendations for Improvement: We recommend developing a plan to evaluate faculty, including annual evaluations, classroom observations, and student evaluations.

Criterion 4

Rubric Category 4.1 What are the trends with enrollment in this program over the course of the review cycle? Write an analysis of what these data indicate about your program. Be sure to include factors that may impact student enrollment. (You can request this data from IR as Tables 2.9, (4.1a, and 4.1b). **100% Early Development/Fails to Meet Criterion**

Factual Observation: The course has had 0 enrollment since 2019 and was shelved during the pandemic. We are hoping to offer the courses in Spring of 2023, and have started a focused recruiting effort at local area high schools, as well as recruiting an on-site instructor at Jemez Mountain Schools to offer the courses as dual-credit in Spring 2023.

Recommendations for Improvement: If a dedicated instructor can be found, the program may be viable. However, student enrollment would need to increase by recruiting dual credit students. For example, in Spring 2023, a dual credit class was offered.

Rubric Category 4.2 Describe recruitment efforts or goals such as increased enrollment. Be sure to include dates, activities, program representatives, and the number of contacts made for each effort. Have These initiatives been successful and how are you measuring success both qualitatively and quantitatively? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not answered.

Recommendations for Improvement: Meet with admissions and develop a recruitment plan.

Rubric Category 4.34.3 Provide data on retention and graduation. (You Can request this data from IR as Table 4.3). Has student retention remained in an acceptable range over the course of the review cycle? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not answered.

Recommendations for Improvement: Acquire data if the program continues.

Rubric Category 4.4 Describe enrollment trends in the course within the program. **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not answered.

Recommendations for Improvement: Acquire data if the program continues.

Rubric Category 4.5 Reflect on the success of the students' within the courses over the course of the cycle. Highlight some completion or DFW rates in the core courses. Were these in line with expectations? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not answered.

Recommendations for Improvement: Acquire data if the program continues.

Rubric Category 4.6 Assess student learning, retention, performance, and success in online vs. on-campus courses (if applicable). For example, provide student success rate between one modality (DFW, final grades, student evaluations) and another. **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not answered.

Recommendations for Improvement: Acquire data if the program continues.

Rubric Category 4.7 How many students are graduating from the program? ((You can request this data from IR as Table 4.7.) Have the completion rates been in line with expectations? Write an analysis of what these data indicate about program effectiveness. **100% Early Development/Fails to Meet Criterion**

Factual Observation: As I recall, we had around 18 students complete the program successfully. All of those students were dual-credit HS students and opted not to, or were unable to afford the graduation fee to secure the certificate.

Recommendations for Improvement: Perhaps reduce the graduation fee for certificates. If the students are dual credit students, award the degree at their high school. Explore ways to have high schools pay for graduation fee.

Rubric Category 4.8 Describe how students evaluate this program and instructors (positive and negative feedback). Include forms and data collected from the Course Evaluation Forms (CEF) and the Classroom Observation Forms (COF). Describe how this data is used to make improvements to the program. Highlight any trends or insights that came from the aforementioned evaluations. **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not recorded.

Recommendations for Improvement: Administer CEF to class and compile results.

Rubric Category 4.9 and 4.10-4.9. Describe the advisement process in the program, including number of contacts with students, and follow up on non-returning students. 4.10. Describe how

the program trains and cross-trains advisors, including how often training happens. **100% Early Development/Fails to Meet Criterion**

Factual Observation: Students were advised by the assigned instructor.

Recommendations for Improvement: Will depend on coordination of dual credit coordinator with high school counselors.

Rubric Category 4.12 What were some positive and negative feedback received from students as they completed their degrees? Highlight Any trends or insights that came from exit surveys over the course of the cycle. **100% Early Development/Fails to Meet Criterion**

Factual Observation: Not recorded.

Recommendations for Improvement: Note any feedback in student course evaluations.

Criterion 5

Rubric Category 5.1 Based on all the data gathered in this review,conduct a SWOT (Strength, Weaknesses, Opportunities, and Threats) Analysis. Be sure to include the last time a SWOT Analysis was conducted. **100% Early Development/Fails to Meet Criterion**

Factual Observation: No SWOT analysis was presented.

Recommendations for Improvement:Within the next 6 months the leadership of this program must perform a SWOT analysis to demonstrate the potential and obstacles of this program.

Rubric Category 5.2 Provide a Strategic Improvement Plan for theProgram for the next 5 years. The Plan needs to include goals, SMARTobjectives, and tasks/actions to address the SWOT elements identified,timeline, and strategies and/or measurements to achieve each Plan item.(You may follow the SMART goal setting guidelines: S – Specific, M –Measurable, A – Attainable, R – Realistic, T – Timely.) **100% Early Development/Fails to Meet Criterion**

Factual Observation: There is not a 5 year Strategic Improvement Plan

Recommendations for Improvement: Within the next 6 months the leadership must develop a 5 year Strategic Improvement plan that addresses the concerns presented in the presentation such as sufficient number of instructors, elective opportunities, coordination of alignment with other programs at Northern, and marketing in general.

Rubric Category 5.3 Provide an analysis on the adequacy of the spaces on campus most commonly used by the program. Consider the following items for your discussion: current facilities, deficiencies, inventory report of equipment and losses. Additionally, describe your process for updating and keeping an accurate inventory of equipment, materials and supplies. Indicate whose responsibility it is to maintain the inventory process.**100% Early Development/Fails to Meet Criterion**

Factual Observation: Program review did not identify specifics such as the labs and classrooms used and details of the type of equipment and quantity. Nor did they present plans for equipment replacement and upgrades.

Recommendations for Improvement: Within the next 6 months the program leadership must present an analysis on the current status of equipment including plans to maintain the technology and tools necessary for effective teaching and learning.

Criterion 6 - Information unavailable

Criterion 7

Rubric Category 7.2 Describe the selection and work of the local advisory council for the program. **100% Early Development/Fails to Meet Criterion**

Factual Observation: The external advisory council has not met since 2019 due to the inactive nature of the courses/program.

Recommendations for Improvement: Given the potential for this program and the many directions in which it could be implemented, an advisory council should be revamped.

Rubric Category 7.3 and 7.4 - 7.3 Describe the meetings and present sample agendas as well as minutes of advisory council meetings. Where Are the minutes electronically archived? 7.4 In what ways has the local advisory council helped to plan, develop, evaluate. and promote the program? **100% Early Development/Fails to Meet Criterion**

Factual Observation: Minutes and agendas were not presented as evidence and there was no mention of where minutes might be archived.

Recommendations for Improvement: Minutes should be archived and accessible upon request.

Rubric Category 7.5 Identify and discuss how similar programs compare to your program in terms of size, curriculum, and any relevant attributes. Include the Gray Associates Score Cards for the CIP codes of the program (or related). **100% Early Development/Fails to Meet Criterion**

Rubric Category 7.6 Indicate how your program aligns to the factors listed on the Gray Associates Scorecard Feel free to include up to five relevant CIP codes. (Request a Gray Associates Scorecard from IR.) **100% Early Development/Fails to Meet Criterion**

Factual Observation: The department could not identify any other such programs in the regional market, and there are not specific CIP codes for this field of study.

Recommendations for Improvement: The program should continue to monitor the regional market for similar programs in order to identify competition or where a gap in education might be filled. Monitoring opportunities for how the program could fit into local programs or community needs (such as wildland fire, BLM, pre-engineering, environmental science, agriculture).

Rubric Category 7.7 and 7.8-7.7 How do state, national or industry standards relate to the program curriculum? (Attach matrix of competencies.)7.8 Describe the process for aligning syllabi and course sequencing to standards listing in above.100% Early Development/Fails to Meet Criterion

Rubric Category 7.9 and 7.10 - 7.9 How do your student learning outcomes align with industry needs?7.10 Describe the process for ensuring that teaching and learning materials are current, unbiased, and are of sufficient quality and quantity to serve the needs of the students and those of the industry.100% Early Development/Fails to Meet Criterion

Factual Observation: The program review presentation outlined how the curriculum was aligned with industry certification (although the narrative fails to mention this).

Recommendations for Improvement: The current program provides a general background education for drones. Should the program expand, course sequencing will need to be aligned with specific industry expectations. And, the program will need to ensure teaching and learning materials are current.

Rubric Category 7.11 and 7.12 - 7.11 Describe employment outlook for the degree. Are there changes that could be made to improve employment outlook? 7.12 Describe the national, regional, state and local outlook for this occupation or related field. 100% Early Development/Fails to Meet Criterion

Rubric Category 7.13 What are the current and projected job openings per year (use Gray Associates Software)?100% Early Development/Fails to Meet Criterion

Factual Observation: The demand for commercial drone pilots is “soaring”. The program presentation highlighted how the program could fit into local programs or community needs (such as wildland fire, BLM, pre-engineering, environmental science, agriculture).

Recommendations for Improvement: The program needs to explore and focus the program in order to be able to accurately describe an employment outlook.

Rubric Category 7.14, 7.15, 7.16 and 7.177.14 Describe the job planning/placement efforts and results of the program’s graduates (For Example, cite the number of graduates employed in areas related to majorand number of graduates pursuing advanced degrees.)7.15 Provide the

results of Employer Satisfaction Surveys for the last 3 years as evidence and include an analysis of each year's data and program improvements made in response to the analysis.7.16 If applicable, display pass rate data for any licensure/certification test required of your students for the last 3 years. 7.17 Describe the feedback mechanism, if any, for receiving information from graduate programs or transfer students 100% Early Development/Fails to Meet Criterion

Factual Observation: The program was unable to address job planning/placement efforts or Employer Satisfaction Surveys. The program had no pass rate data for the drone pilot license.

Recommendations for Improvement: While it may not be possible to get employer satisfaction surveys, it would be worthwhile to track students who received the certificate in order to determine if they are using the certificate. This might be accomplished by obtaining alumni (rather than employer) surveys. Successful completion of the license would be beneficial to track.