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**ACADEMIC PROGRAM REVIEW
INTERIM PROGRESS REPORT FORM**

This form is composed of three parts: the Program Section, the Dean Section, and the Provost Section. Guidance for submission is provided in each section.

Using the Form: The form is pre-loaded with information specific to each program and posted on the [Program Review website](#). The program should download and save their form to begin using it. The form is locked, so instructions are viewable and the only sections of the document that can be edited are the form fields.

The form uses narrative, text, and drop-down boxes. Narrative boxes have a character limit, which includes spaces. When using text and drop-down boxes, if you want to undo an answer, press “Control-Z” or “Command-Z.”

Responses are to be narrative only, and must be ADA and FERPA compliant. Do not embed any links, including to webpages or other documents. To be FERPA compliant, do not include the names of any current or former students. Rather, use statements such as, “In AY21 four program graduates were accepted to graduate programs in the field.” Programs with specialized accreditation or other external recognitions must comply with restrictions regarding what can be published, as per the accreditor or external organization. Do not include appendices. Appendices to this form will not be accepted.

Assistance: For technical assistance with this form, email Academic Affairs (uaa.oaa@alaska.edu).

Submission Date: 3/1/2021

Name and title of person(s) submitting the report: Caixia Wang, Chair and Associate Professor

Program(s) in the report: BS Geomatics

Specialized Accrediting Agency (if applicable): Applied Science Accreditation Commission of ABET

Campuses where program is delivered: Anchorage KOD KPC MSC PWSC

Year of last review: AY2020

Final decision from last review: Revision

PROGRAM SECTION

After completing the Program Section, the program should email this form to the dean, and copy uaa.oaa@alaska.edu for posting. If the program is delivered on a community campus, copy the appropriate community campus director(s) as well.

For each current recommendation listed below, provide a timeline for addressing the recommendation, an indication of how you will know when the recommendation has been successfully achieved, a brief description of actions taken to date, and any evidence that the actions have been successful. Programs

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can access current data on the [IR-Reports Program Review site](#).

Recommendation 1: Remove the tracks within the BS and focus the curriculum on training surveyors. Additionally, the program should work with Civil Engineering to integrate CE majors into GEO A156 and stop teaching GEO A155. The revision should be completed in AY21 for implementation in fall 2021.

Timeline (2000 characters or less)

The BS curriculum revision has been completed and submitted for the curriculum review process. The revised curriculum has gone through most curriculum review processes already and arrived at OAA as of the time of this document. The revised curriculum is scheduled to become effective in fall 2021.

How will you know the recommendation has been successfully achieved? Include description of data or metrics used and method used to determine success. (2000 characters or less)

In speaking with industry representatives and our advisory board we find our industry demands both qualified and skilled surveyors and geospatial workers. The department advisory board brought this to its board meeting on Nov. 30, 2020, and passed a motion to approve the department to offer two concentrations, Surveying and Geographic Information Systems (GIS), in its BS program. We incorporated the recommendation along with the inputs from stakeholders and restructured the BS curriculum. With the revision, we removed the Developer concentration and overhauled the Surveying and GIS concentrations to offer focused education in these two specialized areas. As elaborated below for Recommendation 2, this overhaul substantially reduces credits required to be taught by the department, producing considerable cost savings in instructional resources while ensuring high-quality education.

The revised curriculum adds no extra instructional cost since each of the current faculty's expertise is necessary to cover the minimum fields required by surveyor licensure education. The revised program still fulfills the needs in surveying. Additionally, it will draw additional GIS interests driven by evolving markets and technologies to increase enrollment in the program without additional instructional cost. We will use the student enrollment data from IR in the following years to measure its success. Our graduates' employment rate will be collected with the exit survey to measure the high demand for our graduates both in Alaska and nationally.

Discussions with the CE department suggest that GEO A155 is vital for CE and prepares CE students for CE A201 Introduction to CE. The GEO A155 material will also be used in the courses subsequent to CE A201, which includes CE A206 Civil Engineering 3D Modeling and 400-level CE courses in the areas of water resources and transportation. The course pass rate of CE A201 will be used to gauge the success of GEO A155.

Actions taken to date and evidence of success to date. (2000 characters or less)

We have tailored the SLOs of GEO A155 material for CE's needs. And CE has altered its CE A201 by adding GEO A155 to be part of its prerequisite. Our BS curriculum has been reinvigorated to offer focused surveying and GIS concentrations to boost interests in the program. These changes will

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become effective in Fall 2021. Detailed course changes are included in the descriptions below for Recommendation 2. Advertising the revised program has been actively carried out. We have been working closely with our advisory board and professionals to promote the revised program among our statewide and national communities (such as ASPLS, ASPRS, AAUG), state/federal agencies, and geospatial business owners. We have been working on reaching out to non-traditional students such as military and working professionals. Other venues such as conferences and outreach events (e.g., Alaska Surveying and Mapping Annual Conference, Journey into Engineering, GIS day) will continue to be actively used by the program to inspire interests broadly.

A new fast-track career certificate in GIS has been developed using existing courses and added to the department. In addition to helping Alaskans retool quickly and acquire new skills, this OEC will introduce GIS to people to start short-term programs and choose to complete their BS program in the GIS concentration. In this case, all credits from this certificate roll into the GIS concentration of the BS program of Geomatics. Two students have officially enrolled in GIS OEC as of this document.

We have initialized a 2+2 program partnership with the AAS program of Engineering Technology-Geomatics at Bellingham Technical College (BTC) in Washington State. The partnership with BTC has the potential to be a significant contribution to the program. Even though the agreement is still in progress, one student from the BTC AAS program has formally written to request to join the UAA Geomatics BS program after graduating this summer from BTC.

Future actions to take, if applicable. (2000 characters or less)

We will follow up with our advisory board for feedback and ensure continuous curriculum updates to maintain high quality and relevance. And we will continue promoting the program through various venues.

Recommendation 2: Revise the program so it can be taught with existing faculty positions.

Timeline (2000 characters or less)

The program revision has been completed along with the BS curriculum revision. The revised program is scheduled to be implemented in Fall 2021.

How will you know the recommendation has been successfully achieved? Include description of data or metrics used and method used to determine success. (2000 characters or less)

With the revision, we streamlined the department's courses, strengthened math preparation, and added support courses from closely related programs, such as CSCE, Math, and BA, while ensuring its high-quality education. Compared with AY 2019-20, classes taught by full-time and adjunct faculty in the department will be reduced by 30 credits in the revised program starting in fall 2021. These changes generate considerable cost savings in instructional resources. Strategically, faculty's funded research and grants could bring funding to buy out teaching or recruit researchers who might assist teaching in the department. In addition, successful research work will promote interdisciplinary collaborations of the department with other programs/units, in turn increases the visibility of the program. This may take time due to the pressing workload in teaching and services faculty is currently facing during the challenging pandemic era.

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Actions taken to date and evidence of success to date. (2000 characters or less)

The Developer concentration is removed in the revised BS program. The restructured two concentrations are more distinctive with at least 15 credits differences in requirements. In current academic year, we have begun to implement the revisions in terms of offering times per AY for some 100-level classes. For example, GIS A101 Introduction to GIS was reduced to be only offered in the fall semester, and GEO A181 Construction Surveying only in the spring semester.

We have strengthened the preparation of math and streamlined courses offered by the department. This allows GEO courses to focus on key subject topics without the need to include related math material. For example, Math A314 Linear Algebra becomes a required course in the revised program. We merged the two spatial data adjustment courses into one. Similarly, GEO A146 Geomatics Computations I and GEO A246 Geomatics Computations II are merged to the new GEO A146. The SLOs of GEO A157 CAD for Surveyors overlap with GEO A156L and GEO A256L. GEO A157 will not be required in the revised program. Additionally, the new ES A106 Engineering Graphics, offered by the CE department, was added as an elective for students to learn CAD in Engineering should they choose to. Also, we removed the materials in GEO A369 Cadastral Surveys that overlap with the boundary law courses, and reduced GEO A369 from 3 credits to 1 credit.

In total, 15 credits have been added as support courses for the GIS concentration in the revised BS program. Only nine credits required in the Surveying concentration are selected as elective courses for GIS. This would enable students to choose courses from CSCE, Math, Stat, GEOG, ECON, BA, or HS based on their career goals in the application areas of GIS.

Future actions to take, if applicable. (2000 characters or less)

The program will continue supporting faculty to work on proposals to apply for funding.

Recommendation 3: Revise the AAS as part of the BS revision. Align lower division core courses to streamline and reduce the number of lower division courses that need to be taught.

Timeline (2000 characters or less)

We have proposed the revision of AAS program while working on the BS program revision. Since the AAS program is currently temporarily suspended, we will submit the revised AAS curriculum to the curriculum review process once its suspension is lifted.

How will you know the recommendation has been successfully achieved? Include description of data or metrics used and method used to determine success. (2000 characters or less)

The AAS curriculum will be a subset of the revised BS curriculum. All credits from the AAS will roll into the BS in Surveying concentration, should AAS students continue their educations in the BS. There is no extra cost for instructional resources to offer AAS in the department.

Actions taken to date and evidence of success to date. (2000 characters or less)

The proposed revision is included below as future actions.

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Future actions to take, if applicable. (2000 characters or less)

The number of lower-division courses in the AAS will be reduced as the result of the revised BS program becoming effective. They are the same courses used in the BS program, including GEO A146, GEO A246, GEO A157, GEO A156, GEO A256, and ES A106. Details are covered in the section of actions taken for Recommendation 2.

Recommendation 4: Rename the program to better reflect currency and promote visibility and shift specialized accreditor to EAC.

Timeline (2000 characters or less)

After consulting with the department advisory board, an ABET Accreditation Coordinator, and NCEES, faculty at the department unanimously voted to keep the current department name and its current accreditation commission – ANSAC. The main concern is the uncertainty regarding accreditation under EAC. Instead, we direct our efforts to promote the visibility of the program through various venues.

How will you know the recommendation has been successfully achieved? Include description of data or metrics used and method used to determine success. (2000 characters or less)

By proactively promoting the visibility of the program, existing and new career opportunities led by the revised program will be recognized. Increased interests would be drawn to the program. Student enrollment data will be used to measure success.

Actions taken to date and evidence of success to date. (2000 characters or less)

As stated above, advertising the department and programs it offers has been actively carried out. Details are elaborated in the section of actions taken for Recommendation 1.

Future actions to take, if applicable. (2000 characters or less)

We will continue the advertising efforts through a wide range of opportunities.

Recommendation 5: Increase enrollment and completion rates in the AAS.

Timeline (2000 characters or less)

AAS has been temporarily suspended. We have focused on advising current AAS students via mandatory advising to complete the degree. Once the AAS program is lifted, we will resume our recruiting efforts for the AAS program.

How will you know the recommendation has been successfully achieved? Include description of data or metrics used and method used to determine success. (2000 characters or less)

The increase in AAS enrollment will be used to measure the success.

Actions taken to date and evidence of success to date. (2000 characters or less)

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The proposed work is included below as future actions.

Future actions to take, if applicable. (2000 characters or less)

The recruitment activities will be resumed to work with the advisory board and professionals in the surveying industry once the AAS program is lifted. Mandatory advising will continue to be implemented for all AAS students. Since most AAS students choose to continue their education in our BS program and may not have the interests in applying for graduation in AAS program, we will revise the mandatory advising template to add incentives (such as covering the graduation fees by the department) to encourage students to apply for AAS graduation before they enroll in the BS.

DEAN SECTION

After completing the Dean Section and signing it, the dean should email this form to the program, and copy uaa.aaa@alaska.edu for posting. If the program is delivered on a community campus, copy the appropriate community campus director(s) as well.

For each recommendation, comment on the progress to date and provide commendations and guidance as appropriate. (2000 characters or less for each recommendation)

Recommendation 1: Remove the tracks within the BS and focus the curriculum on training surveyors. Additionally, the program should work with Civil Engineering to integrate CE majors into GEO A156 and stop teaching GEO A155. The revision should be completed in AY21 for implementation in fall 2021.

The faculty have designed and submitted a revised program that has already been through the curricular process for implementation in next year's catalog. The new curriculum removed the developer concentration but kept the surveying and GIS concentrations. Although this action differs from the recommendation, I support the decision for the reasons specified by the faculty, community professionals, and the department's advisory board: the concentrations will meet industry needs along with emerging applications of GIS while making the program more attractive than just surveying. Additionally, topics covered in both the GIS and surveying concentrations are required for surveyor licensure and ABET accreditation. Finally, the program faculty found other ways to streamline the programs, reducing the credits that need to be taught by 30 compared to AY19-20.

GEO A155 was retained and revised with input from the Civil Engineering department. It will be a prereq for CE A201 which will increase enrollment and is slated to be an important piece of the CE curriculum.

The department is making excellent progress marketing the programs and establishing new partnerships including the 2+2 with Bellingham Technical College. I strongly encourage these activities to continue.

Recommendation 2: Revise the program so it can be taught with existing faculty positions.

This has been accomplished in the revised program. I anticipate delivering the program in AY22 with

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the same faculty resources as AY21.

Recommendation 3: Revise the AAS as part of the BS revision. Align lower division core courses to streamline and reduce the number of lower division courses that need to be taught.

This has been accomplished in the revised curriculum. The AAS is a 100% subset of the BS. This will provide a completion option for students that do not wish to complete a 4 year degree along with a path for students finishing the AAS to continue to the BS (as in the 2+2 with BTC).

For this reason I support lifting the temporary suspension of the AAS.

Recommendation 4: Rename the program to better reflect currency and promote visibility and shift specialized accreditor to EAC.

Since this recommendation was made we have learned about complications that would result from the name change. Most notably, the shift in commissions for accreditation will require meeting the accreditation criteria of a new program. As a result, I agree with the program's decision to market the program in other ways than renaming.

Recommendation 5: Increase enrollment and completion rates in the AAS.

As noted, this cannot yet be addressed due to the temporary suspension of the AAS. However, this recommendation should be expanded to include the BS. I support the faculty and advisory board measures to increase enrollment discussed in Recommendation 1. The faculty should also look for any hurdles to completion and if steps can be taken to increase retention/completion rates.

Dean's overall recommendation to the provost: Follow-up Program Review in AY24.

If recommending Suspension with Follow-up Program Review, that review will need to be in AY2022 or AY2023. Please indicate which year: Select Academic Year.

Dean's signature:

Date: 4/1/2021

PROVOST SECTION

After completion and signature, the Provost will email the final decision to the program and dean, with a copy to uaa.aaa@alaska.edu for posting. If the program is delivered on a community campus, copy the appropriate community campus director(s) as well.

Provost's commendations, additional or adjusted recommendations, if any, and other general comments (3000 characters or less):

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The program has made progress on the recommendations. Moving forward, I especially encourage the continued focus on the success of the program's students.

Recommendation 1) The program removed a track from the BS after consultation with their advisory board and consideration of community needs. The program also addressed hidden prerequisites.

Recommendation 2) The program is able to be taught with the current level of full-time and part-time faculty.

Recommendation 3) The AAS was not revised, but is stacked into the BS.

Recommendation 4) A name change is not recommended at this time.

Recommendation 5) It is recommended that the AAS be re-opened for admissions and that the faculty continue their efforts to increase enrollment, as well as retention and graduation rates.

Decision: The college should put forward a formal request to re-open admissions to the AAS degree. Both the AAS and BS will be scheduled for a Follow-up Program Review in AY24.

Final decision: Agree with the dean's overall recommendation with the additional guidance and adjustments as per the above comments.

Provost's signature:

DocuSigned by:
Denise Runge
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Date: July 12, 2021