UAA Geomatics Advisory Board
Meeting Agenda

Date: Monday, February 12, 2018
Time: 12:00 to 3:30 pm
Place: Alaska Surveying & Mapping Conference, Illiamna Room at the Hilton Anchorage

---

1. Call to order
2. Welcome & Introductions
3. Roll call
    a. Attendees: Paul Brooks, Steve Buchanan, Isaiah Ditmer, John Koltun, Stan Moll, Terri Morganson, Tom Newman, Jim Sharp, Nathan Wardwell, John Bean, Gennady Gienko, Jeff Hollingsworth, Caixia Wang, Marguerite Leoni
    b. Excused Absences: Don Davis, Jennifer Dowling, Eric Gabrielson, Jeff Yates
    c. Unexcused Absences: Brian Gutzwiller, Kurt Huhta, Bill Preston, Kevin Quinn, Steve Schmitt
4. Approval of and changes to agenda
    a. A motion was made to approve the agenda. Agenda was approved with changes.
5. Approval of minutes from November 11, 2017 meeting
    a. The March minutes were mistakenly printed for the meeting due to a last minute administrative change. Since they were emailed to the GAB after the meeting in November, a motion was made to approve the minutes. Minutes were approved.
    b. The November minutes will be emailed at a later date, along with this meeting's minutes.
6. Old Business & Reports
    a. Geomatics Student Association updates - Marguerite Leoni
        i. Students have shown interest in a hydrographic surveying course. Brenna Hughes will be teaching it in Fall 2018.
        ii. The two main focuses this semester are outreach and the mentorship program that was started last fall.
            1. In January there was an outreach event at East High. GSA spoke to 100-125 students about map reading and had the Sand Box on display. They are hoping to do a leveling outreach with KCC or a school in Eagle River in the spring. GSA has also been connecting with Vicki Nechodomu, the College of Engineering STEM Outreach Coordinator, in order to see how they can be involved with her outreach programs as well.
                a. SECO donated leveling equipment to the GSA, so the idea was brought up to teach students at KCC and/or Eagle River how to do leveling with the equipment, and then gift the leveling set to them.
                b. Nathan volunteered for JOA Surveys to assist with the leveling outreach as they have the equipment for the project.
            2. The mentorship program's main focus right now is to receive feedback from those with experience in order to improve it to better serve students.
                a. Isaiah Ditmer has been serving as a mentor within the program. Anyone interested in serving can email the GSA at uaa.gsa@gmail.com.
        iii. The Dean of the College of Engineering requested clubs create a display in the cases in the Engineering & Computation Building. GSA is working on the third floor case outside of the Geomatics Department suite.
            1. The display has old surveying equipment, new surveying equipment, what students are currently working on, and past student accomplishments. There is also a monitor for information to be distributed to students via a dynamic display.

iv. The editor of xyHt reached out to the GSA recently and requested an article on the GSA Mentorship Program, which Taylor Dosch is going to write for the spring semester. He would like to have another article in August, written from a student's perspective of the Geomatics program at UAA. They are working on lining someone up to write the article.
v. First meeting of the new year was February 1st. 28 people attended, consisting of 19 students and 9 industry members.
    1. Emails are sent to industry members the week before the meeting inviting them to attend, in order to further those connections and hopefully continue to develop the Mentorship Program.
    2. There will be two more meetings during the Spring semester, with the next meeting including elections.
vi. Dave Hale was at the most recent GSA meeting as a guest speaker. He talked about licensure, regulations and statutes.
vii. In April, Lieutenant Brussell from NOAA will be speaking at the GSA meeting.

b. Geomatics Department updates
    i. Department updates – Jeffery Hollingsworth
        1. Spring 2018 enrollment numbers are on par with the Fall 2018 numbers.
        2. The Dean tasked each department within the College of Engineering with creating a plan to increase enrollment. The Geomatics Department has completed its plan and submitted it to the Dean.
            a. Part of the plan includes offering additional delivery methods to students, such as a combined face-to-face, web meeting, and online delivery for courses. The Department began testing these courses in the Fall 2017 semester, and has received very positive feedback so far.
                i. Over the next few years all of the Geomatics courses will be converted to this format, allowing students to take the courses via distance learning. Please page 2 see the Update document below for the schedule of when the courses will tentatively be offered.
                ii. The Dean agreed to compensate faculty for the time they will spend over Summer 2018 to work on some of the courses.
                iii. The Dean has pushed for courses to be offered online in order to reach more students, especially beyond the Anchorage area. He is requesting all of the Engineering departments to do the same, but Geomatics is the first to move in this direction.
                    1. The question was asked as to whether the CoEng has the resources and infrastructure to support online programs. Jeff confirmed that there is someone who is working on the distance delivery, and that there is a search for another member to join that team.
                    2. Currently Caixia is supporting the IT for her students in the evening, and this is an issue. In a recent meeting, the Dean was made aware of this and so Geomatics may be meeting with the IT Services.
                iv. The College of Engineering does not reduce costs for online course tuition as far as the Department knows. There is an additional $75 fee for each course for distance delivery and technology. A discussion may come at a later time about removing the fees associated with the shuttle, sports center,

etc. that distance students would not make use of if they are not on campus.
    1. Western states receive a discounted tuition rate compared to outside tuition, but it is not as low as the in-state tuition rate.

v. The CoEng is working on its marketing program, and has hired Charles Williams to work full-time on a new plan. It has become a priority within the College, as part of the plan to increase enrollment.
    1. It was suggested that once courses are online, it might be beneficial to offer them to professionals as development courses. This may be another avenue of marketing as well.

vi. The entire Bachelor of Science degree will be offered completely online by 2020, minus any unforeseen circumstances. Since the majority of the General Education Requirements, and all of the Major Requirements outside of the Geomatics courses are already online, students can complete the degree via distance after 2020.

vii. Lab restructuring for distance delivery
    1. Labs are run on campus, and if students are local they attend the lab at UAA. If they are not local and/or unable to attend, the faculty work with them to locate a local surveyor to work with. Lab materials and assignments are given to them to work with their mentor and then return results to faculty.
    2. The idea was brought up to offer a weekend or more of a practical component for students. There has been discussion within the Department on what would work best, and this idea was brought up before. Some of the discussion has been to have a field camp over the summer that provides hands-on experience. Gennady tested a software that allows scanners to be operated remotely with a PC, which was successful. He has thought about setting up a permanent scanner and camera in the lab that distance students would be able to operate remotely. However, the logistics would need to be worked on in terms of equipment and materials.
        a. The Geomatics Department is working on purchasing a new server that would support this equipment and method. They are working with ITS on this.
        b. Nathan brought up that he had an opportunity in school to do some intensive courses that were a month long, and it was a positive experience.

3. The Geomatics Department was granted $6600 in tuition waiver funds to distribute to students for the Spring 2018 semester. Faculty will review the applications submitted next week and identify qualified students for disbursement.

a. The initial Geomatics plan was to use tuition waivers as incentive for students to join the program as freshmen, but the Dean required the waivers to be used for the Spring 2018 semester instead.
b. There were also a few scholarships that were not awarded for the Fall 2017 semester due to student disqualification, so this money will also be distributed to students for the Spring 2018 semester.

ii. ABET SLO Changes – Jeffery Hollingsworth
1. At the last GAB meeting in November, there was a discussion regarding the first two bullet points of the Program Learning Objectives for the B.S. in Geomatics degree (see page 3 of the Update document).
a. The first and second bullet points will be replaced with a single point stating, "Have attempted professional certification or registration, e.g. Fundamentals of Surveying examination, Certified Photogrammetrist, Certified Hydrographic Surveyor, or GISP, as appropriate for their career path in a geomatics discipline."
i. Per Tom Newman, the proper term is "Certified Hydrographer," so this change will replaced "Certified Hydrographic Surveyor" in the wording of the PLO.
2. ABET is consolidating the current 12 Student Learning Outcomes to 6 outcomes. The Geomatics Department would like to adopt the new SLO with the addition of a 7th outcome (see pages 4-5 of the Update document).
a. The 7th outcome includes a list of six areas of surveying and mapping, which are ABET criteria. Geomatics has to include at least one of these areas, but has chosen to include all six in their outcomes.
3. The program has one more year to make the transition to the new outcomes.
4. The Geomatics Department would like to request approval of the GAB to make the changes to the SLO and the PLO mentioned above.
a. A motion was made by Jim Sharp to approve the Geomatics Department proposed changes to the Student Learning Outcomes and Program Educational Objectives. Paul Brooks seconded the motion. The motion was unanimously approved with nine votes in favor.
b. There was some debate as to whether this qualified as a quorum, however, if it does not then an electronic vote will be held.

iii. Senior project design update – John Bean
1. Senior projects have been discussed at the last few Department meetings due to the standard of projects being produced. One way to attempt to better prepare students was to notify them over the Winter Break that they would need to come to their first class with an idea for a project, and have a first draft of a proposal ready within the first week.
a. One of the issues seems to be their writing abilities. John Bean is teaching the Capstone course, and he had students take their proposals to the Writing Center in order to have them reviewed. He saw some improvement in formatting and grammar.
b. The other issues is that students do not have well-formed ideas for their projects and what they would like to pursue. The Geomatics Department has discussed having some stock proposals available for students who are not able to produce their own ideas. There are a few students who have taken advantage of these templates this Spring.
c. GSA solicited project ideas at their booth during the Surveying & Mapping Conference.

2. In order to assist with project preparation, the Geomatics Department has discussed implementing the Civil Engineering program's design of having a 1-credit preparatory course the semester prior to the Capstone, during which students create their project proposals. Some students are able to begin some preliminary research and data collecting prior to starting their capstone course the following semester. When John mentioned this to Geomatics students, they were highly interested.
    a. This would give them more time during their capstone semester to work on their project rather than focusing on the proposal for the first four weeks.
    b. It was suggested that part of the 1-credit course could be to review recently completed projects so that students could potentially gain ideas from them.
3. Jim questioned whether there is a way for students to learn research writing in their first year, so that they are better prepared for their senior year.
4. Steve mentioned that part of his curriculum in college was for students to complete a project in each course that included the writing of a written report and a presentation.
    a. Jeff mentioned that several of the Geomatics courses involve this type of format with projects already. However, the issue is the amount of time that it takes for grading papers and providing feedback to students. It is time-consuming for faculty.
5. Another member suggested having students do article reviews in order to expose students to reading synthesized information and recommunicating it, as a way to improve their writing skills.
6. Gennady provides the Technical Writing Guide for Geomatics from New Brunswick University to his Photogrammetry students as they are required to write a technical report.
7. Nathan suggested providing them with a technical writing paper at the beginning of the course that is of the grade that the instructor expects to see by the end of the course.
8. Terri suggested potentially holding the 1-credit course the spring before they take their Capstone course (a full year ahead of time) because students have mentioned wanting to do work over the summer that could potentially apply to their projects. If they only take the course during the fall semester, they will not have this ability.
    a. There are technical work groups throughout Alaska that students could potentially reach out to in order to network and brainstorm projects via the work that they are completing at the time. Also, they could either potentially form mentorships and/or internships with these groups and work on their project via this avenue.
        i. They are under the Alaska Geospatial Council, and focus on statewide data sets in different categories i.e. elevation, geodetics, etc.
        ii. They also require technical writing in their positions so students could practice their writing skills as well.
9. Spring 2018 senior project ideas:
    a. Change detection with Landsat imagery, using glacial changes over time and a clear-cut forest in Oregon
    b. Boundary survey of a parcel
    c. ALTA/NSPS survey

d. Topographic & detail survey
e. UAA Campus GIS – building a better web-friendly map of the campus and a map of the buildings noting important things like fire exits
f. Alaska center of population, using census data and GPS data
g. GPS study of the UAA campus
h. Trimble SSX-10 scanning project
i. Development of a GPS control network design handbook
j. Developing a GIS-based bridge management tool

10. Nathan suggested that with NGS moving to a new national spatial reference system, there is the opportunity to create several projects.

iv. Geomatics research update – Caixia Wang and Gennady Gienko
1. Caixia Wang
a. Caixia's first project, monitoring ground subsidence due to permafrost thawing by remote sensing for critical infrastructures, is funded by Conoco Phillips. The grant is for the year 2018. She is working with a faculty from civil engineering and two graduate students to complete the work.
b. Her soil feature extraction from archived soil surveys project is a continuation from last year that will wrap up this summer.
c. Her final project is regarding high-resolution water depth modeling using remotely sensed imagery. It was granted to her via the Vice Provost's Innovative Award. She is using satellite imagery of the arctic area for the project.
2. Gennady Gienko
a. Spatio-temporal analysis of snow cover in Alaska
i. Two more grants were awarded to continue this project.
ii. Geomatics has its first graduate student working on this project through funding via the grant. He is working on a Master's in Interdisciplinary Studies, since Geomatics does not have its own Master's program. However, Geomatics is his primary focus. He is also studying Computer Science and Civil Engineering.
iii. In addition, there is a Civil Engineering student in his final year of their Master's program that is also working on this project.
b. Hi-definition 3D modeling of coastal bluff erosion (Pt. Woronzof, City of Kenai)
i. Gennady used point-cloud analysis and SFM for this project. He is hoping to have a paper written this fall regarding the history of the bluff and its erosion over time, and to identify points that are less stable and those that are more stable.
c. Reconstruction of Alaskan cultural masks using precision 3D modeling with Structure From Motion
i. This is a non-funded project that Gennady is working on per the request of the Anthropology Department as a service to the community.

v. CoENG AB Report – Nathan Wardwell
1. Nathan was not able to attend the last College of Engineering Advisory Board due to personal commitments, so he does not have an update at this time. The next meeting is April 24th, which Steve will attend in Nathan's place since he is taking on the role of President.

c. Discussion of potential new members to replace vacancies

i. Kurt Huhta was voted in during the March meeting.
ii. Joel Cusick had to step down, so the GAB would like to see someone from the Southeast join.
iii. Terrie will reach out to Kerry from the GIS group from the Southeast as he is attending the conference.
iv. Susie Gibson could be another potential candidate as a surveyor. Terrie will reach out to her as well.

7. New Business
    a. Isaiah presented on the recent GAB Publicity Subcommittee meeting he had with Jennifer Dowling and Steve. A summary of their meeting is attached below.
        i. They discussed options for marketing the UAA Department of Geomatics more effectively. The following suggestions are chronologically organized:
            1. Create a web-based repository accessible to the advisory board, department faculty and GSA for content to use in marketing and on the website. It could be a Dropbox or some other place for people to access. Charles Williams is the new web-developer and marketing point for the College of Engineering that could be tapped as a resource.
                a. An alternative was suggested to request companies who are willing to provide material on an ad hoc basis, in order to target specific material.
                b. Jeff suggested expanding it to include a place for data sets for students to use.
            2. Share personal stories of people involved in the program such as current students, graduates and related professionals.
                a. Isaiah thought that the best way to do so may be through the GSA Facebook site for exposure reasons.
            3. Promote the GIS Minor to other majors.
            4. Increase external advertising. Jennifer Dowling is researching options and costs.
            5. Increase secondary school outreach in conjunction with the STEM Outreach Coordinator and the GSA.
        ii. Steve also brought up the idea of publishing articles in trade journals.
        iii. Vicki Nechodomu, the STEM Outreach Coordinator, may be a good resource to reach out to because she is looking for professionals and students to promote Geomatics. Jeff will invite her to the next meeting.
8. Additions to Agenda
    a. Steve Buchanan will be taking the place of Chair of the Geomatics Advisory Board effective at the next GAB meeting. Nathan Wardwell is stepping down and requests that someone be willing to take the Vice Chair position to replace Steve.
9. Schedule next meeting
    a. Terrie suggested having the next meeting the same day as the senior project presentations so that they could be back to back. This will likely be toward the end of April.
10. Adjournment
    a. Steve made a motion to adjourn which was seconded. Meeting was adjourned.

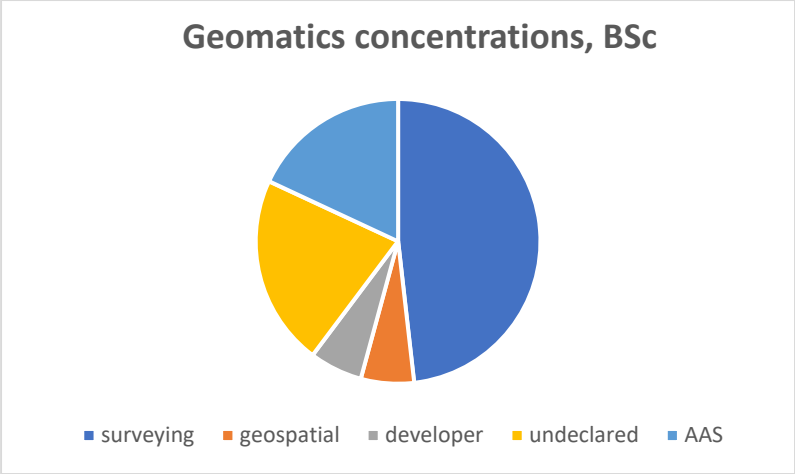
Department of Geomatics University of Alaska Anchorage

Update for GAB meeting

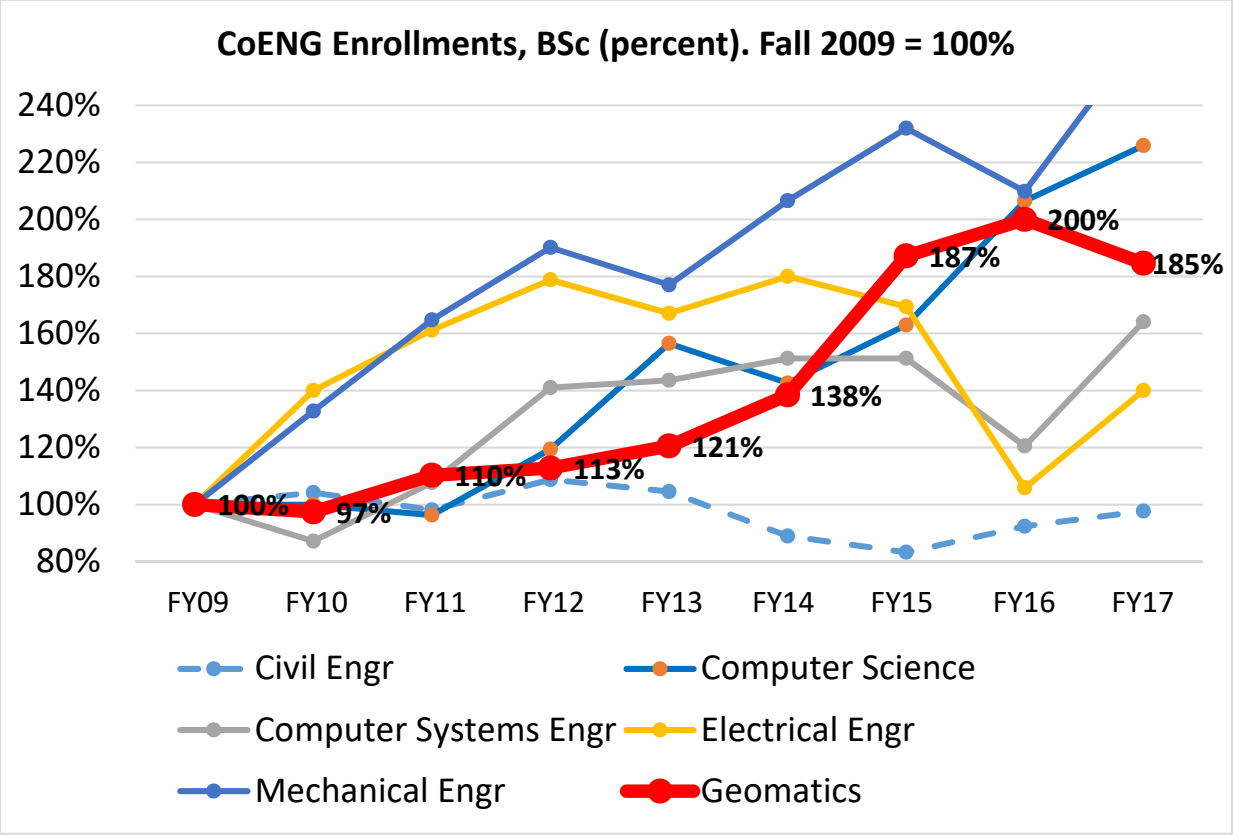
February 12, 2018

Enrollment Data

- Fall 2013: 63
- Fall 2014: 76
- Fall 2015: 81
- Fall 2016: 92
- Fall 2017: 97



Enrollment Trends



Geomatics Curriculum Changes

1. As part of the Geomatics plan to increase enrollment, all Geomatics courses will be offered via multiple delivery modes over the course of the next five years. Courses will be offered via distance education in addition to our face-to-face mode. This plan will allow students from outside of the immediate Anchorage area to attend courses and earn a Geomatics degree. All course requirements outside of the Geomatics discipline are currently available via distance learning. The schedule of transition for Geomatics is as follows:
    - Fall 2017
        - GEO A146 Geomatics Computation – Jeff Hollingsworth
        - GEO A156 Fundamentals of Surveying – John Bean
        - GIS A101 Intro to GIS – Caixia Wang
        - GIS A301 Spatial Data Structures – Michael Hendricks
        - GIS A697 GIS Analysis for Transport – Caixia Wang
    - Spring 2018
        - GEO A155 Intro to Surveying – John Bean
        - GEO A157 CAD for Surveyors – John Bean
        - GEO A246 Geomatics Computations II – John Bean
        - GEO A267 Boundary Law I – Jeff Hollingsworth
    - Fall 2018
        - GEO A256 Engineering Surveying – John Bean
        - GEO A266 Advanced Surveying – John Bean
        - GEO A359 Geodesy and Map Projections – Jeff Hollingsworth
        - GEO A364 Spatial Data Adjustments I – Jeff Hollingsworth
        - GIS A351 Remote Sensing – Gennady Gienko
        - GIS A458 Spatial Data Management – Caixia Wang
    - Spring 2019
        - GEO A357 Photogrammetry – Gennady Gienko
        - GEO A366 Spatial Data Adjustments II – Jeff Hollingsworth
        - GEO A369 Cadastral Surveys – Jeff Hollingsworth
        - GEO A457 Boundary Law II – Jeff Hollingsworth
        - GIS A201 Intermediate GIS – Caixia Wang
    - Fall 2019
        - GEO A466 Geopositioning – John Bean
        - GIS A367 Image Analysis – Gennady Gienko
    - Spring 2020
        - GEO A410 High-Density Surveying – Gennady Gienko
        - GEO A420 Point Cloud Analysis – Gennady Gienko
        - GEO A460 Geomatics Capstone Project – John Bean

        - GIS A466 Spatial Analysis – Caixia Wang
2. Other curriculum changes:
    - GEO A246 CCG was modified to better reflect current course content.
    - GEO A410 will now be required for the Surveying concentration (already required for the Geopositioning concentration).
    - GIS A367 was changed to a 400-level course and is now GIS A467.

Program Educational Objectives

The current Program Educational Objectives for the Bachelor of Science in Geomatics are as follows:

"Within a few years of graduation, graduates of the Bachelor of Science in Geomatics program:

1. Have attempted the AELS Board's Fundamentals of Surveying examination, if they are pursuing careers in the surveying area.
2. Have attempted equivalent professional certification or registration, e.g., CP or GISP, as appropriate for their career path, if they are pursuing careers in a non-surveying area.
3. Obtain membership in one or more professional organizations relevant to their career of choice.
4. Be employed in the fields within the geomatics disciplines, including surveying of various types, mapping and cartography, GIS/LIS, remote sensing, geodesy, photogrammetry or hydrographic surveying.
5. Continue their professional development by participating in professional development courses or sessions, or complete higher education courses.
6. Teach at least one workshop or training session, make one conference presentation, or publish one article relevant to their career."

At the last Geomatics Advisory Board meeting there was discussion about editing these objectives in order to consolidate some material. The Geomatics Department requests approval for the following change:

1. The first and second bullet points will be replaced with, "Have attempted professional certification or registration, e.g. Fundamentals of Surveying examination, Certified Photogrammetrist, Certified Hydrographic Surveyor, or GISP, as appropriate for their career path in a geomatics discipline."

Student Learning Outcomes

Due to a change in ABET standards, new Student Learning Outcomes will need to be adopted by the Geomatics Department.

The current Student Learning Outcomes for the B.S. in Geomatics state - Students graduating with a Bachelor of Science in Geomatics will have:

1. An ability to apply knowledge of mathematics, statistics and general physics;
2. An ability to collect, analyze and interpret data in all of the recognized surveying and mapping areas;
3. An ability to identify, formulate and design a geomatics system, component or process to meet desired needs;
4. An ability to function on multidisciplinary as well as on interdisciplinary teams;
5. An ability to think critically and to solve geomatics problems creatively and constructively;
6. An understanding of professional and ethical responsibility;
7. An ability to communicate effectively;
8. The broad education necessary to understand the impact of geomatics solutions in a global and societal context;
9. A recognition of the need for, and ability to engage in, lifelong learning;
10. A knowledge of contemporary issues in professional practice;
11. An ability to use the techniques, skills and modern geomatics tools necessary for geomatics practice; and
12. An ability to apply knowledge in all six areas of surveying and mapping:
    a) Field surveying and methods
    b) Photogrammetric mapping, image interpretation and remote sensing
    c) Surveying calculation and data adjustment
    d) Geodetic coordinates and astronomy
    e) Cartographic representation, projections and map production
    f) Computer-based multipurpose cadastre, geographic information systems.

According to ABET, Baccalaureate degree program student outcomes must now include, but are not limited to, the following (1-6):

1. An ability to identify, formulate, and solve broadly-defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.

2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

The Department would like to suggest the addition of a 7th outcome:

7. An ability to apply knowledge in all six areas of surveying and mapping:
    a) Field surveying and methods
    b) Photogrammetric mapping, image interpretation and remote sensing
    c) Surveying calculation and data adjustment
    d) Geodetic coordinates and astronomy
    e) Cartographic representation, projections and map production
    f) Computer-based multipurpose cadaster, geographic information systems

The Geomatics Department requests approval to remove the current Student Learning Outcomes for the B.S. in Geomatics degree and replace them with the new ABET outcomes 1-6 noted above as well as the 7th suggestion from the Department.

Geomatics Department Funds

1. Total contribution to the Al Talcott fund (since its inception 10/07): $53,364.21
2. Current balance: $1,119.56
    a) Foundation holding account & UAA activity account (combined): $16,983.17
    b) UAA activity account (spendable): $15,864.21

Faculty Research Topics/Projects

1. Gennady Gienko:
    a) Current Projects:

1) Spatio-temporal analysis of snow cover in Alaska
    a. Two more grants were awarded to continue this project.
    b. Geomatics has its first graduate student working on this project through funding via the grant. He is working on a Master's in Interdisciplinary Studies, since Geomatics does not have its own Master's program. However, Geomatics is his primary focus. He is also studying Computer Science and Civil Engineering.
    c. In addition, there is a Civil Engineering student in his final year of their Master's program that is also working on this project.
2) Hi-definition 3D modeling of coastal bluff erosion (Pt. Woronzof, City of Kenai)
3) Reconstruction of Alaskan cultural masks using precision 3D modeling with Structure From Motion

2. Caixia Wang
    a) Current Projects:
        1) Monitoring ground subsidence due to permafrost thawing by remote sensing for critical infrastructures
        2) High-resolution water depth modeling using remotely sensed imagery
        3) Soil feature extraction from archived soil surveys

Over the course of 2017 the Publicity Subcommittee met to discuss and evaluate options for marketing the UAA Department of Geomatics effectively. Categorized recommendations for further discussion with the board are outlined below.

Material Repository

Many of the items that follow would benefit from having access to a repository of dedicated marketing materials. This includes but is not limited to graphics, sample data, documents, and images from projects around Alaska. Such materials could be used for the development of webpages, brochures, and other means of promoting the department. Submitted materials would credit their sources whenever used, providing publicity to the originator of the material as well.

Recommendations

Create web-based repository accessible to the advisory board, department faculty, and GSA. Establish a point of contact for material submission. Draft simple usage agreement for materials.

Social Media

Few things illustrate the benefit of a program like the personal stories of those involved. Video interviews with current students, graduates of the program, and related professionals would demonstrate the tie between the department of Geomatics and career opportunities. This would appeal to both prospective students researching the program and currently enrolled students interested in future opportunities.

Recommendations

Identify candidates for interviews. Draft standard topics of discussion to provide consistency. Coordinate with GSA to publish via social media.

GIS Minor Promotion

The importance of geospatial competencies in many technical professions is ever increasing. The department of Geomatics is well positioned to offer employable skills to students with other majors. Raising awareness of this across relevant programs at UAA should lead to an increase in both enrollment and visibility.

Recommendations

Make contact with advisors in other UAA departments. Develop informational flyer for distribution throughout campus.

External Advertising

The cost/benefit ratio of advertising in publications as discussed previously by the board was somewhat contentious. Continued expansion of the profession has led to a dramatic increase in the number of related publications, warranting a review of print advertising.

Recommendations

Develop list of publications and associated advertising costs.

Secondary School Outreach

Historically the number of students enrolling in programs like Geomatics immediately following secondary school are lower than average. This is often attributed to a lack of awareness on the part of teachers and advisors. Traditional students who might have been interested in the program simply don't learn of it until they are already at UAA, or worse yet, not at all. Increasing knowledge of the program among those who interact with secondary students regularly can address this issue.

Recommendations

Develop informative materials for distribution to secondary school contacts. Coordinate with the GSA and School of Engineering STEM Outreach coordinator to avoid duplicating efforts. Consider hosting an open-house to showcase the department's labs.

Committee Members

Steve Buchanan, PLS – SurvBase LLC.

Jennifer Dowling – DAT/EM Systems International

Isaiah Ditmer – Kodiak Mapping Inc.