

MINUTES
UAA College of Engineering Advisory Board
September 8, 2017 at 7:30 am – EIB 413
Anchorage, Alaska

1. Welcome, Roll Call and Introductions

Loren Leman, Chair, called the meeting to order on Friday, September 8, 2017 at 7:32 a.m. and welcomed advisory board members, staff and guests. Tami Choquette called the roll.

Members Present: Loren Leman (Chair), Richard Reich, Melissa Branch, Derek Christianson (telephonic), Jack Colonell, Pat Coullahan, Bruce Davison, Mark Frischknorn, Virginia Groeschel, James Hemsath, Alex Hills (Telephonic), Jenny Jemison (Vice Chair, telephonic), Nicole Knox, Boyd Morgenthaler, George Skladal, Michael Todd, Steve Weaver

Members Absent: Paul Brooks (Excused), Dan Fawcett (Excused), John Lau, Sara Pate, Gregory Schmidt, Jon Zufelt (Excused)

UAA CoEng Staff and Visitors Present: UA President Jim Johnsen, Acting Chancellor Sam Gingerich, Dean Fred Barlow, Jayna Combs, Kim Riggs, Tami Choquette, UAF CEM Dean Doug Goering, UAF CEMADC Chair Chantal Walsh, Ann Ringstad, Stephanie Mormilo

2. Board Housekeeping:

A. Approval of the Agenda

MOTION PASSED: Loren Leman presented the proposed agenda. With no objection the agenda was approved.

B. Approval of Minutes – Because of change of staffing in the College of Engineering Dean’s Office the minutes of the April 21, 2017 meeting are unavailable. They will be constructed from archived information and presented for approval at the December 1 meeting. Members were asked to advise Chairman Leman or Tami Choquette if they attended the meeting.

3. Membership

Chair Leman introduced Stephanie Mormilo, Traffic Engineer, Municipality of Anchorage for election to the board. She had previously applied and had attended a meeting of our Board. Ms. Mormilo was raised in Anchorage and attended local schools, graduating from Bartlett H.S. As a UA Scholar she attended UAA, graduating in 2004 with a BS in Civil Engineering. In 2008 she obtained her PE and practiced in the private sector from 2003-2011. In 2011 she became the Director of the Traffic Department and Traffic Engineer for the Municipality of Anchorage. A professional resume will be forthcoming.

MOTION PASSED: Loren Leman presented Stephanie Mormilo as a prospective member of the Advisory Board. With no objection she was confirmed.

4. Special Order of Business:

A. **Interim UAA Chancellor Dr. Sam Gingerich** shared with the Board that the final statement from ABET accreditation has been received. First, the statement included recognition of the work of the Advisory Board, noting that “the level of engagement and dedication to supporting and growing the College are exceptional. The students and faculty benefit from the knowledge, expertise, networks and resources provided by the Board members.” Second, the statement recognized the UAA administration’s “continued support of growth of the engineering programs including recent additions of new facilities (EIB), renovations of existing facilities (ECB), in particular state of the art e-learning classrooms that facilitate student access, as well as

coordination of resources between the Anchorage and Fairbanks campuses. All of these improvements positively impact student life.” On behalf of UAA he thanked the board members for their service and support of the engineering programs.

The Fall 2017 semester is underway. Enrollment numbers will not be finalized for several more weeks as students can still add and drop classes. In looking at date-to-date comparisons, preliminary numbers show that headcount is down 4% and student credit hours are down 2.6%. This overall decline at UAA continues the trends that have been experienced recently. This is a primary challenge that will be addressed by the institution. CoEng enrollment is still fluctuating. However, as of Monday, September 4, engineering was up 20 students from last year. The AY16 fall/spring retention rate for CoEng was 82.3%. This is one of the highest rates at UAA and one of the highest rates recorded for the College, which speaks to the work of the Dean and his team. Changes are being made to the organizations both in CoEng and across the campus. However, the primary focus continues to be on student success.

UAA’s focus over the next year will be on enrollment and preparation of students to meet the needs of the marketplace in our State. UAA has formalized this through a strategic planning process initiated last year called UAA 2020 that will focus on quality, excellence, efficiency and student success with three main goals: 1) to advance a culture of institutional excellence that inspires and enables student, faculty and staff success; 2) increase the number of students who persist and complete their educational goals; and 3) graduate more students to fill Alaska’s needs.

The institutional Diversity and Inclusion Action Plan has been finalized and steps will be taken to implement it this year. UAA continues preparations and self-study for reaffirmation and accreditation by NWC UU. Site visits will occur in Fall 2018.

- B. **UA President Dr. Jim Johnsen** shared that UAA is conducting a search for a permanent Chancellor. Search committee members will include a faculty member from the CoEng and offered the Board an opportunity to select a member to serve on the search committee. The timeline for the process will be for applications to be reviewed in January, interviews to occur in early Spring, with the expectation that a decision will be made in mid to late Spring.

Enrollment is a top priority for the UA system. By 2025 65% of Alaska’s workforce will need some form of post-secondary education. Currently we are at 50%. Traditionally Alaska has a low college attendance rate and that will need to increase to hit those workforce goals. The university will need to step up outreach to both high school students and those already in the workforce who may have some college education but no degree. Alaska leads the nation in the percentage of workforce who have some college education but no degree. The university will need to be more innovative in reaching out through additional marketing and advertising but also in offering online courses and online degree completion programs to not only increase enrollment and tuition revenue but to fulfill the role the university plays in preparing the workforce for the future. Areas of emphasis include nursing, engineering, and education in preparation of teachers. Only 30% of the teacher rehires in Alaska each year are UA graduates. The goal is to raise that to 90%.

The State operating budget appropriation has declined from \$378MM in FY14 to \$317MM in FY17, representing a year-over-year decline of \$61MM or 15%-16%. More real, in terms of impact, is the cumulative reduction of \$145MM that would have come to the university if the budget had stayed at \$378MM. The university has had to make a lot of reductions over the last several years but it is also reinvesting in the future. The UA Board of Regents has reallocated \$6MM this year to invest in four top priority areas:

1) marketing, recruitment, retention; 2) workforce (teachers, nurses, engineers etc); 3) research; and 4) process improvement and process automation. The university is currently committed to

\$1.1MM per year in process improvement not only to bring cost structures down but also to increase enrollment by improving the student experience.

At a recent UAA Staff Alliance meeting it was suggested that there is a need to have more advisory councils with stronger connections and relationships to the community. A model of this in action is the UAA College of Engineering and this advisory board. The strength and professionalism of the members of the board along with the advocacy that this group has provided, the collaboration between UAA and UAF in facility, delivery of courses and sharing of research opportunities, is a model for what can be accomplished across the university in serving our community by being responsive to community interests and needs.

- C. **CoEng Dean Dr. Fred Barlow** shared that early data shows that Fall 2017 headcount is up 1.5% and student credit hours are up 5.8% with the strongest growth occurring in CSE and ME. A recent challenge has been high enrollment in introductory classes, resulting in the need for larger classrooms, which have been found.

The ME, CE, EE and Geomatics BS programs were evaluated by ABET in 2016, resulting in all four receiving the maximum 6 years of accreditation. No deficiencies or weaknesses were found with the only concerns being faculty to student ratios. The Geomatics report was so well received that ABET would like to use it as a model for other universities to follow. CS is on a different cycle and will be reviewed next year. PM has a different accreditation which was previously completed.

A new articulation agreement was signed in the Summer between Dimond High School and CoEng. This allows students to obtain college credit for combinations of high school Project Lead the Way (PLTW) courses coupled with math courses. Several students have obtained college level credit this Fall for basic engineering classes (for example, Introduction to Engineering). Discussions with the Anchorage School District are occurring in the hopes to make this agreement district-wide.

The number of degree awards continue to rise each year with a recent jump from 156 in AY15-16 to 174 in AY16-17. A new Ph.D. MOU has been signed between UAA and UAF. This allows students to get their Ph.D. without the residency requirement of living in Fairbanks. The entire Ph.D. can be completed in Anchorage with a committee of UAA and UAF faculty with the degree awarded by UAF. This is a win-win for both institutions and the Anchorage community.

CoEng went through a staff reorganization over the Spring/Summer. A primary result of the new structure was the creation of one "Student Services and Advising" team. Whereas the prior structure included separate advising and administrative support groups the new structure is designed to increase efficiency, enhance focus on student support and provide a more complete customer service experience.

Dr. Steve Wang and Dr. Jeff Hoffman resigned over the summer. Three new tenure-track hires were completed bringing on Dr. Sebastian Neumayer (CSE) from MIT & Lincoln Labs with expertise in networks, Dr. Ahmed AbuHussein (EE) from Tennessee with expertise in power systems, and Dr. Raghu Srinivasan (ME) from Hawaii with expertise in corrosion. Each of these hires represent focus areas for their respective departments.

The CoEng also hired Vicki Nechodomu as the new STEM Outreach Coordinator. Vicki comes to us from Lower Kuskokwim School District where she spent nearly a decade as a teacher and administrator. Her focus will be outreach to K-12 to include high-energy, fun programs targeted at younger audiences (exploration level) to programs helping older students prepare for successful

entry into college (preparation level). The CoEng is also working with the Matanuska-Susitna Borough School District to expand dual credit courses.

Faculty and Program News:

- Dr. Jenny Brock, Chair of ME, is co-chairing the effort to renew our institutional accreditation with the NWCCU.
- The Fast Track MS degree in ME was approved by the Statewide Academic Council. It will be considered by the Board of Regents at its next meeting.
- The planned teach-out of ESM courses are on track to be completed by May of 2018. The college is working hard to make sure that all students in the program are able to finish their degrees.
- LuAnn Piccard, Chair of PM/ESM, has been elected Chair for PMI GAC, the accrediting body for PM academic programs.
- A new course aimed at working professionals is being offered this semester – Packet Networks for Industry Professionals. The semester-long course is being taught by Adjunct Professor and GCI VP of Architecture and Planning Mark Ayers. This is a new model the college is trying out to provide courses to meet the needs of professionals in the community.
- The Professional Development Seminar Series is being offered again this semester. This qualifies for PDH credits for the PE license and can be attended locally or via distance. There is also opportunity for Board members to be presenters.
- Dr. Joey Yang and Dr. Hannele Zubeck organized the 1st International Workshop on Frozen Ground Engineering and Climate Effects in Anchorage, August 1-10 with 20 participants from the U.S. and China.

Research News:

- FY 18 CoEng research awards are off to a great start, with total awards to date at about \$1.5MM.
- Dr. Aaron Dotson will receive \$300k from NSF through a joint project with INE at UAF: Optimize the Water Sewer Challenge system for renewable/dispatchable power systems.
- Drs. Michele Yatchmeneff and Matt Calhoun are co-PI's on the NSF LSAMP grant, as well as co-PI's for UAA and UAF with 5 other institutions on the Alfred P. Sloan Indigenous Graduate Partnership (SIGP) that runs from 2017-2020.
- Dr. Joey Yang recently received a \$75,000 investment from the Alaska Accelerator Fund to help market his carbon fiber Tundra Tape through a newly-formed start-up called Arctic Heat Technologies, Inc.
- Dr. Tom Ravens and ISER's Tobias Schwoerer have been awarded a \$500,000 NSF Convergence Grant to address rapid environmental changes and attendant natural hazards threatening coastal Arctic communities.
- ConocoPhillips has generously contributed funds for a 1000kN actuator for the Structures Lab.

D. **Sr. Development Officer Jayna Combs** shared that local Alaska architect and CoEng supporter Harold Wirum passed away in Seattle on August 12. He made a \$100K contribution to the College with part of it being used to create the C. Harold Wirum Scholarship (endowed) and the remainder to be used for the Dean's Excellence Award and scholarships for differential tuition.

ConocoPhillips contributed \$90K to purchase a 1000kN actuator (large) for the Structures Testing Lab. The actuator will be installed in January. It hoped the lab will be brought up to full capacity

in the near future through proposals allowing us to add the smallest and most precise actuator to the lab.

BP selected six students to receive their scholarship this year (\$5000 each) with three going to UAA engineering students and three to UAF engineering students. The BP sponsored Summer Engineering Academies had nearly 550 participants. A highlight was attending the rocketry academies in Mat-Su at the UAF farm in Palmer, and watching students launch rockets.

Chair Lemman reminded members of the importance of individual giving by Board members. Our goal is to have 100% participation in an amount that is meaningful to the member.

- E. **Student Representative – Co-Chair of the CoEng Student Council** – No report as the council has not met yet this academic year.
- F. **Student-Faculty Project Presentation** - Provided by the UAA Robotics Club.

5. Old Business

- A. **Extension of Chairman's Term** – Jenny Jemison is still on assignment in Russia and is now expected to be back in late Fall, perhaps by the December 1 meeting.

<p>MOTION PASSED: Loren Lemman offered to extend his term as Chair until Jenny Jemison is back in Alaska and able to assume chairmanship. With no objection the motion passed.</p>

- B. **Member Updates on the Website** – Please review your capsule resume on the CoEng website and send any updates to Tami Choquette.

6. Persons to be Heard:

- A. **UAF College of Engineering and Mines Dean – Dr. Doug Goering** shared his pleasure in working with UAA CoEng and Dean Barlow in creating the MOU for the new Ph.D. in Anchorage and looks forward to having more Anchorage students in the program. Some faculty exchange between the two campuses including Andrew Metzgar and Jifeng Peng has been helpful in the ability to work together and get classes co-taught.

The move-in process to the new Engineering Learning & Innovation Facility (ELIF) will start in November with classes beginning to be taught in Spring and full occupation to come in Summer. The largest challenge will be moving some of the equipment.

In response to a question from Dr. Alex Hills Dean Goering shared that a primary challenge to co-teaching of courses between UAA and UAF has been the different schedules at UAA and UAF. The difficulties are more than just start/end time for classes, which can be overcome, but the contact hour difference, which is more than 15% between UAA and UAF classes. As a result, the UAF faculty senate is struggling with decisions to allow their CEM to list UAA courses as equivalent to UAF courses so we can do a direct sharing plan. It has made it difficult for us to share classes directly and for students to enroll in classes. In addition, some grad students are being forced to pay fees at both UAA and UAF. The sharing of courses could be simplified if contact time and similarity in course teaching schedule could be resolved.

- B. **Chair of UAF CEMADC – Chantal Walsh** reported that the CEMADC meeting has been delayed until October and the council will be approving the JEAC charter at that time. Members of the CoEng Advisory Board will be invited to the opening ceremonies of the new ELIF building in Fairbanks on December 8 and she looks forward to as many as possible attending.

7. New Business

- A. **Excused Absences** – Three board members requested their absences today be excused: Paul Brooks, Dan Fawcett and Jon Zufelt.

MOTION PASSED: Loren Leman recommended that the Board excuse Paul Brooks, Dan Fawcett and Jon Zufelt as requested. With no objection these three members were excused.

- B. **Joint Engineering Advisory Council (JEAC) Charter** – UAA and UAF has had an informal joint committee of CEMADC and CoEng advisory board members for several years for working collaboratively on issues affecting both universities. With the Strategic Pathways initiatives and at the request of UA President Jim Johnsen and with the support of UA Board of Regents the two boards were asked to formalize that effort. The result is the creation of the Joint Engineering Advisory Council (JEAC) and the formalization of it with a charter. The JEAC is not set up to function autonomously but instead as an outreach/extension of both boards, under the authority of the two boards. The charter will serve as a guide on structure and objectives. The three initial goals of the JEAC are advocacy, outreach, and increasing enrollment and revenue. At the beginning of each calendar year the JEAC will establish an annual work plan.

The proposed charter has already been approved by the JEAC and now stands for approval by both the CoEng Advisory Board and the CEMADC. Members reviewed and discussed the proposed charter.

MOTION PASSED: Richard Reich presented the charter for the JEAC. Discussion followed. With no objection the charter was approved.

- C. **Commendations** – Loren suggested that we continue to recognize formally individuals who have contributed substantially to Alaska, UA and the engineering community. We did that with Frank Nyman and now propose that Paul Crews and C. Harold Wirum be recognized by commendation. We hope to have these prepared for presentation to their families at our December 1 meeting.

MOTION PASSED: Loren Leman moved to approve commendations for Paul Crews and C. Harold Wirum. With no objection the motion passed.

- D. **UAA Chancellor Search** – President Johnsen has offered the opportunity for a Board member to serve on the UAA Chancellor search committee. If interested, please contact Chair Leman.

8. Committee Reports:

- A. **Engineering Policy** – Boyd Morgenthaler: No activity since our Spring meeting to report.
- B. **Facilities** – Kim Riggs: Chris Turletes and John Hansen, who were both instrumental in the construction of the new EIB and renovation of ECB, have retired.
- C. **Membership** – Loren Leman: The bylaws allow up to 25 members. With the addition today of Stephanie Mormilo, our membership now stands at 24. We want to be sure our members are active and interested in continuing to serve. Liz Greer has expressed interest in serving on the Board when her commitments to ASCE are completed. If members have recommendations or suggestions of others who may be interested in serving please let Chair Leman know.

- D. **Graduate Research** – The committee has not met formally over the Summer break. Dr. Joey Yang has accepted the position as one of the associate editors of the *ASCE Journal of Cold Regions Engineering*. Dr. Aaron Dotson has been leading a rewrite of the Cold Regions Utilities Monograph. Dr. Doug Goering will be receiving the Harold R. Payton Award for Cold Regions Engineering from ASCE.
- E. **Communications** – Melissa Branch: Melissa and Virginia Groeschel participated in the Freshman Orientation/Welcoming for CoEng students. They will be working with the College on ideas to make it even better next year.
- The committee will be contacting engineering societies and setting up a meeting in early October to get everyone together to discuss what each are doing for outreach to better streamline and partner efforts.
- The committee wants to know what would be helpful to Board members to assist in spreading the word/sharing information with colleagues and others outside our Board about the exciting things and changes that are happening at the college.
- F. **UAA/UAF Joint Committee** - Reminder to members to participate in the Engineering Industry Survey and send to others in your network. The survey can be found at <http://www.alaskaneedsengineers.com/>.

9. Announcements and Member Comments:

- A. **Next Regular Board Meeting** – December 1, 2017 in EIB 413
- B. **Member Comments**
- V. Groeschel – Turnagain STEAM Night Friday, October 13. Looking for prizes: office swag/pencils/pens stickers etc. Please contact Virginia if you have anything to contribute.
 - J. Hemsath – Will be presenting at the 2017 Project Management Global Congress at the end of October. Amazon is looking for second headquarters – why not Anchorage? Could be more aggressive as a State and community in going after these potential technical opportunities. What can we do to help our community be more aggressive at looking at these new opportunities?
 - L. Leman – Reminder that the CoEng is still looking for presenters for the Professional Development Seminar Series. If interested, contact Dr. Tom Ravens.

10. Meeting Adjournment

Chair Leman adjourned the meeting at 9:52 a.m.