

ANSEP Report 2011

The Alaska Native Science & Engineering Program (ANSEP) started at UAF in the Fall of 2002. Its initial primary purpose was to enhance students' academic success through financial support, study groups, and maintaining a sense of community for those students far removed from their rural settings. While this remains a major goal, the program now focuses also on enhancing professional development by strongly encouraging professional summer internships, frequent presentations by students and leaders at weekly ANSEP meetings, developing important networks, and holding discussions in how to write resumes, do interviews, etc.

While the program focuses on Alaska Native students, it is open to any student pursuing a BS or graduate degree in a STEM field and anyone is welcome to attend our weekly meetings currently held in the Gathering Room of the Brooks Building most Tuesdays from 1:00-2:00 pm. Because of the openness of the program, it has influenced a tremendous number of students. For the sake of record keeping, however, students become officially part of the program only if they have met one of the below criteria.

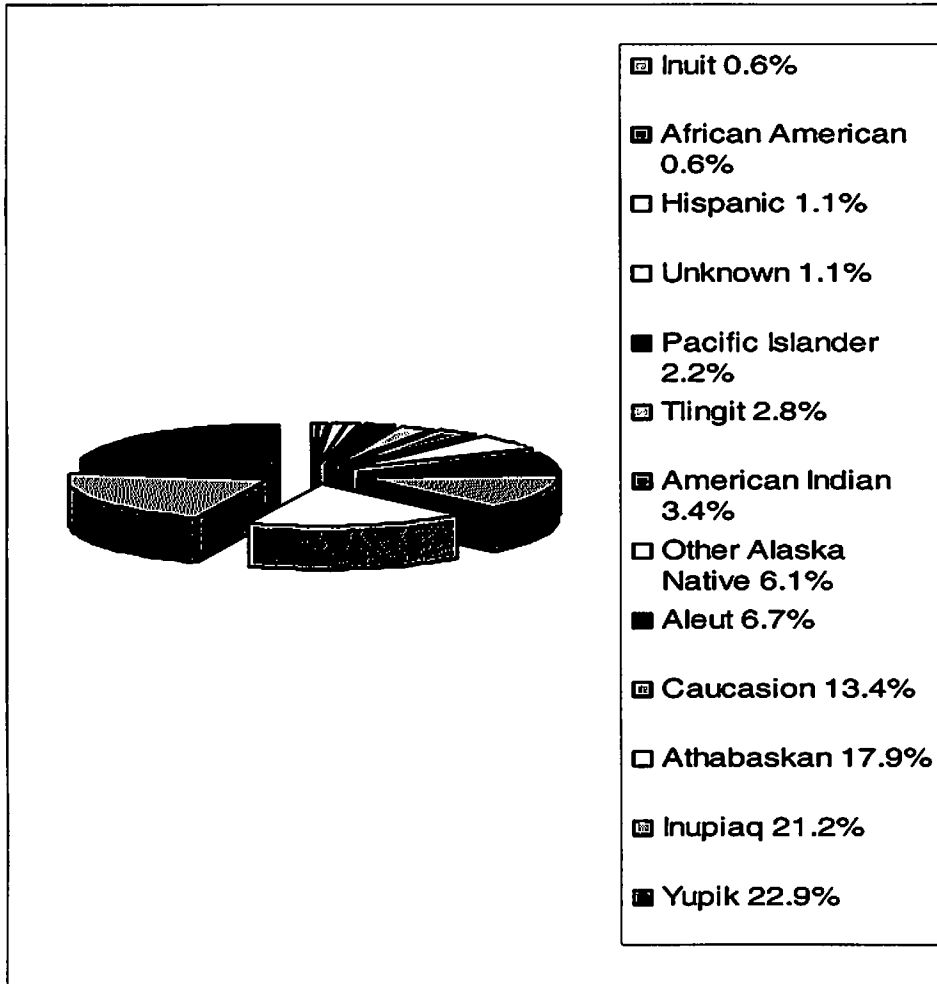
- Successfully participated in one of ANSEP's *Pre-College* component: *Computer Assembly, Junior Acceleration Academy* and/or *Summer Bridge* component.
- have been actively involved ANSEP for a full academic year by:
 - regularly attending weekly meetings and study groups (if applicable)
 - maintaining good academic standing
 - pursuing a BS or graduate degree in a STEM field
 - advancing beyond remedial work in mathematics and English
- have received an ANSEP stipend (which usually requires performing an approved summer internship).

In 2008, the UAF ANSEP program underwent a major change in its leadership. The Director took on new responsibilities, the administrative assistant left the university to raise a family, the Dean of CNSM retired, and the college's fiscal officer who helped with ANSEP's budget took a new position. This was a tremendous disruption to the program and challenged our ability to track the program's successes. The purpose of this document is to review to the best of our ability the history of ANSEP at UAF and to provide a solid starting point for future analyses.

As of the writing of this document, ANSEP at UAF has identified 179 students who met at least one of the criteria listed above. Most of these students are Alaska Native as seen in figure 1.

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Figure 1. A pie chart showing the reported ethnic background of the 179 ANSEP students from the start of the program to Spring 2011. Based on this data, 80% of the students have reported Alaska Native Heritage.

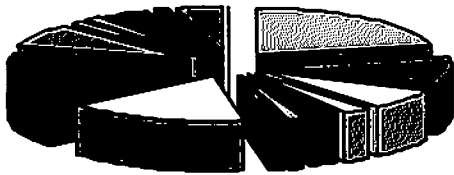


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Of these 179 students, 73 (41%) have received bachelor degrees (Figure 2) and one received their PhD (2009). In addition, this May we are anticipating students earning 5 additional BS, 2 MS, and 1 PhD degrees which will bring the total percentage of graduating students up to 45%. Of the remaining 179 students, 5 moved to other institutions, and 12 are no longer actively pursuing a degree. The remaining 81 students are still pursuing degrees at UAF although a few are no longer active in the program. Hence our current retention rate is about 90-93% depending if one counts students transferring to another institution as lost to the program.

Figure 2. Earned degrees by UAF ANSEP students over the course of its history at UAF.

Bachelor degrees awarded



- Biological Science 21.9%
- Chemistry 9.6%
- Fisheries 6.8%
- Geology
- Wildlife Biology 2.7%
- Geophysics 1.4%
- Physics 1.4%
- Civil Engineering 16.4%
- Mechanical Engineering 15.1%
- Electrical Engineering 8.2%
- Mining Engineering 1.4%
- Geological Engineering 1.4%
- Computer Science 4.1%
- Mathematics 1.4%
- Non STEM field 5.5%

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The program has been showing modest growth in both its membership (Figure 3) and the number of graduating ANSEP students (Figure 4). In the entering membership data (Figure 3) there was a clear pulse of students when the program first started at UAF in 2002. Since 2003, there has been a general trend in an increasing number of entering students. There also has been a steady increase in the number of degrees awarded as the program has matured (Figure 4)

Figure 3. Number of students entering the ANSEP program at during each academic year.

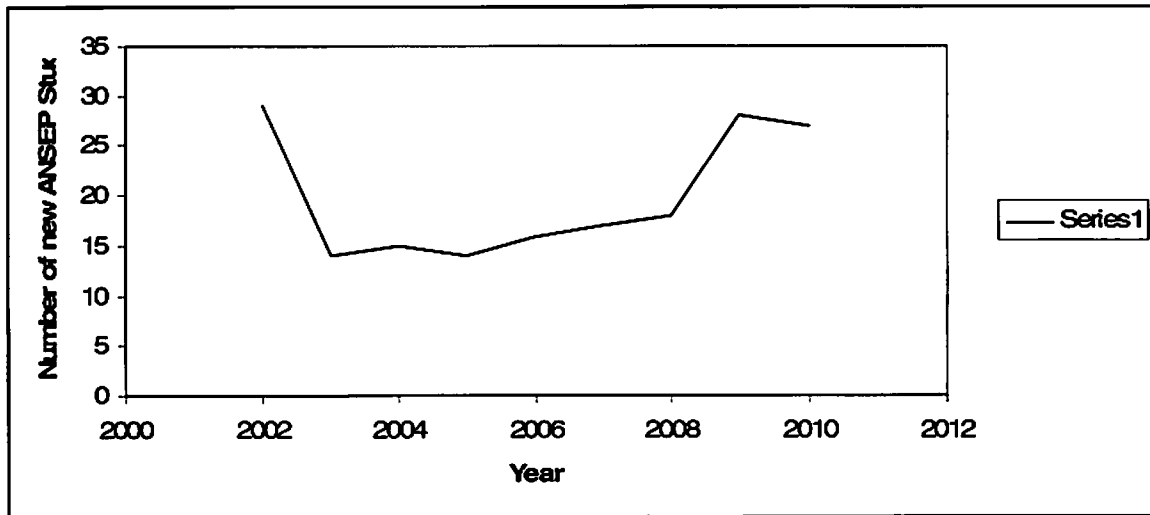
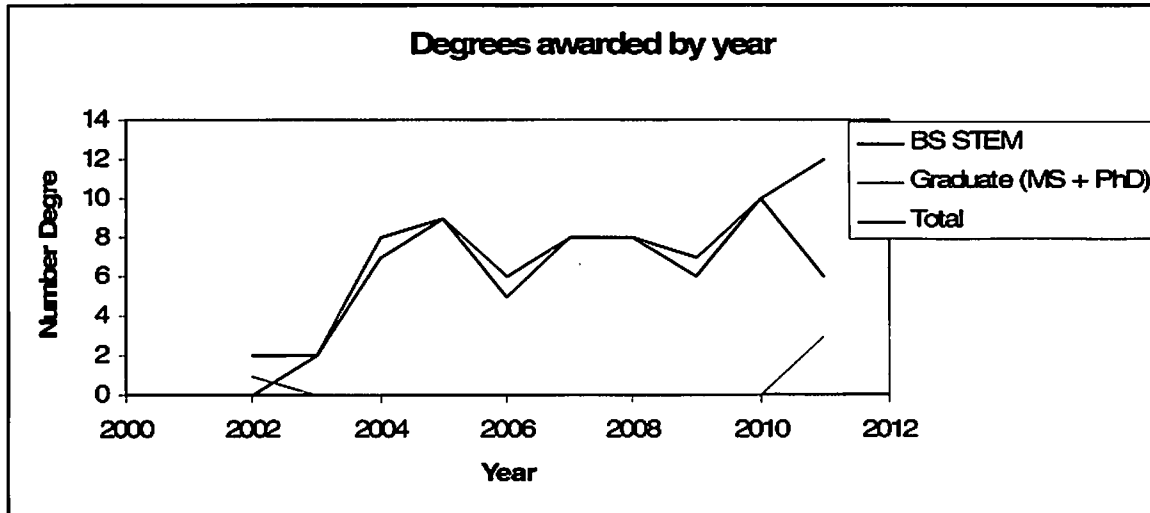


Figure 4. Number of degrees awarded by each spring. The data does not include three non Stem degrees earned over the period of time covered in this report.



ANSEP at UAF faces several challenges:

1. Expand the infrastructure needed in order to allow the number of active students in the program to continue to grow. The space currently used for weekly meetings (Gathering Room in Brooks) has reached capacity and often students are sitting in aisle ways watching presentations. In addition, study group space does not adequately allow students to work on chalk boards in groups which is an important pedagogy practice for many courses.
2. Form formal ties with existing programs that encourage rural high school students to pursue studies in STEM fields. These programs include the PreCollege component of ANSEP that is run out of UAA, the Alaska Summer Research Academy (ASRA) run out of CNSM, and the Rural Alaska Honor Institute (RAHI).

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3. **Initiate a precollege ANSEP component much like is run out of UAA. Sophomore high school Alaska Native students from the interior will be target for the program. Discussions with RAHI and ASRA have already taken place to ensure there are no conflicts. In addition, the UAA ANSEP program seems to be on board to help us get started.**
4. **Establish a sustainable budget. Currently our funds come from the National Science Foundation (NSF), corporate partners, and UAF (through CNSM). The way these funds are partitioned in the program needs to be reexamined and probably adjusted.**