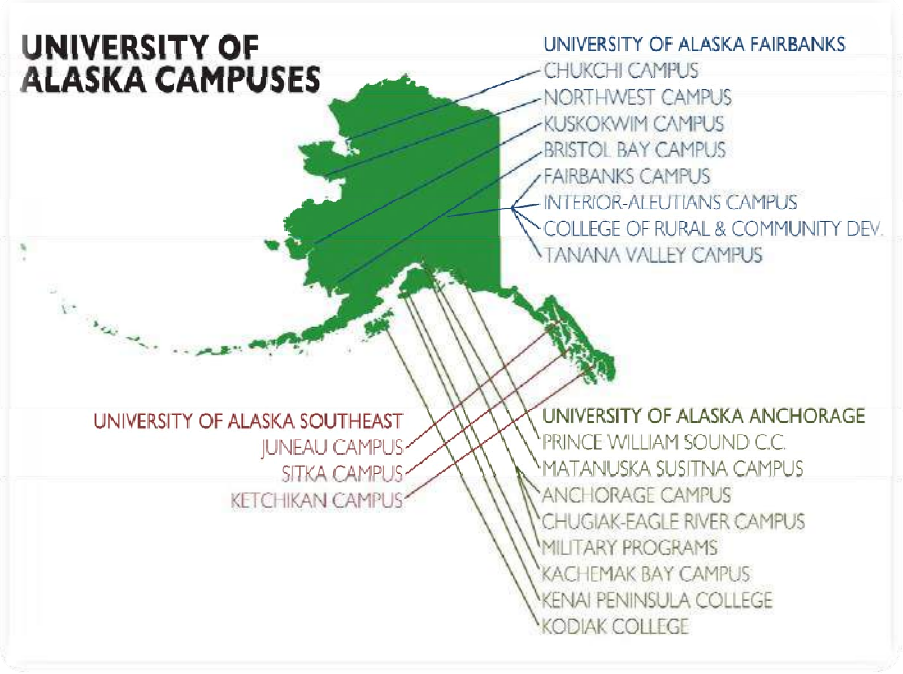
2013 Impact Report

Louis Stokes Alliances for Minority Participation (LSAMP)

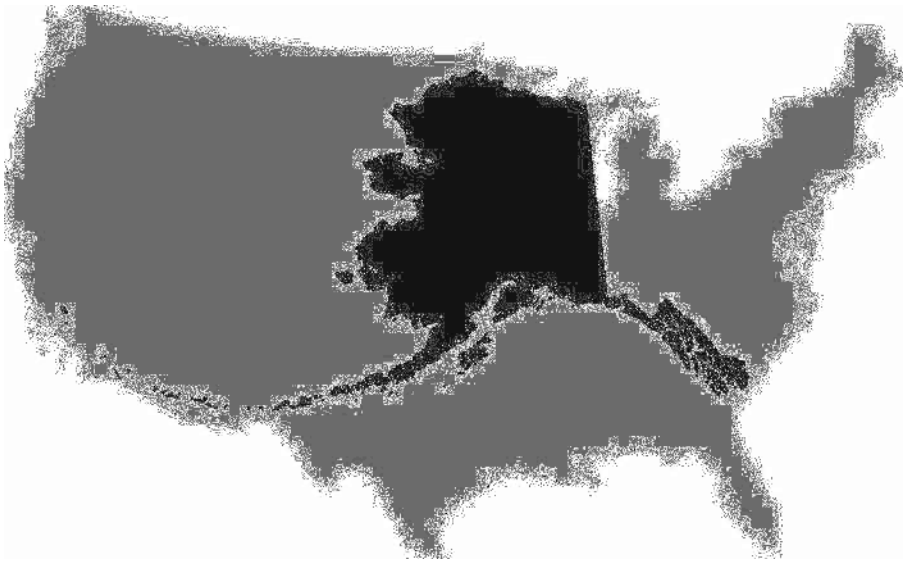
The Alaska Alliance

The Alaska Alliance setting

The University of Alaska Statewide System consists of 3 separately accredited institutions. These are the University of Alaska Anchorage, University of Alaska Fairbanks, and University of Alaska Southeast (Juneau). Each institution includes separate community campuses. There are 19 campuses total. We do not call them community colleges here. We do not have problems with matriculation because we are all the same University. System-wide there are 33,000 full- and part-time students enrolled, studying among 500 unique degree, certificate or endorsement programs.



Alaska is a huge place. We have very limited road infrastructure and rely upon air travel to get to the bulk of the communities in the state. The people living outside of the metropolitan hubs of Anchorage, Fairbanks, and Juneau rely heavily upon fish and game to subsist. We fly or take the ferry to our capital city of Juneau.



Alaska rural communities face challenges to development and economic self-sufficiency; geography and climate; isolation; unemployment; high cost and low standards of living; and infrastructure issues.

Most rural Alaska schools have fewer than 100 K-12 students. Many students never receive preschool education. Since the schools are geographically isolated, quality teachers are difficult to find and retain. Rural Alaskan villages have some of the worst literacy rates in the nation. Alaska Native students are less likely to pass standard tests than any other demographic, and Alaska Native students are more likely to drop out of school than any other demographic.

Executive Summary

The University of Alaska Anchorage (UAA) was awarded its first LSAMP grant in Fall 2001. At that time, there were 300 minority students engaged in BS STEM degree programs statewide. Most students would show up for freshman year chronically underprepared. Nine minority students graduated during our first academic year of LSAMP involvement. Since then the program has evolved. LSAMP catalyzed a transformation in education in our state. Currently, we work with over 1,250 students all across Alaska through a suite of STEM focused academic components beginning in 6th grade and continuing all the way through a PhD. Approximately 500 of these students are in grades 6 through 12, approximately 600 of these students are enrolled in STEM BS degree programs at the University of Alaska, and there are 21 graduate students. We have had 407 minority STEM BS graduates. The success of the LSAMP students has led to partnerships that have leveraged LSAMP funding approximately10 times to support our work. A portion of this includes $6.5 million for a 14,000 square foot building to house LSAMP on the campus at the University of Alaska Anchorage and $4.4 million for an endowed chair so that minority students will have a faculty advocate in perpetuity. LSAMP PI Dr. Herb Ilisaurri Schroeder has been honored with the *Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring (*PAESMEM), the National Action Council for Minorities in Engineering (NACME) *Reginald Jones Founders Award*, and the Alaska Federation of Natives (AFN) *Denali Award*, the top award bestowed upon a non-Native by the Federation. Recently the Harvard Kennedy School Ash Center for Democratic Governance and Innovation selected our longitudinal education model (ANSEP) as one of the top 25 government innovations in the nation.

Introduction

LSAMP is the undergraduate component of the Alaska Native Science & Engineering Program (ANSEP). ANSEP focuses on providing inspiration, guidance, and opportunity for Alaska Native, American Indian, and other minority studentts to pursue engineering and other STEM degrees at the University of Alaska campuses. ANSEP is a longitudinal model that works with students from the time they are in middle school all the way through to the professions and the PhD. The program raises the bar for academic preparation for college, increases university recruitment, first-to-second-year retention, and graduation rates through hands-on middle and high school outreach initiatives, rigorous summer bridging programs, and focused undergraduate and graduate academic communities. Programmatic components are grouped in the four broad categories of *Pre-College*, *Summer Bridge*, *University Success(LSAMP)*, and *Graduate Success*.

Background

ANSEP was founded in 1995 as an Alaska Native engineering recruitment and retention program within the school of engineering at the University of Alaska Anchorage with a single Alaska Native engineering undergraduate. It was quickly discovered that the Alaska Native students who were applying to and arriving at the university were very underprepared for college-level mathematics and science. Prior to the fall 1996 semester, only 13 Alaska Native students had enrolled in the University of Alaska Anchorage's introduction to engineering course and 3 Alaska Native students had graduated with a bachelor's of science degree in engineering in the fifteen-year history of its undergraduate engineering degree program.

Upon investigation it was discovered that most of the teachers and administrators in the K-12 system believed that Alaska Native students were not interested in pursing careers in engineering or science. Many teachers believed that their Alaska Native students did not have the interest, motivation or capacity to complete chemistry, physics, and trigonometry by the time they graduated from high school. These courses were often not offered in most of the non-urban high schools that had high populations of Alaska Native students. Most of the Alaska Native students we were meeting believed that they could not have a career in engineering or science.

The situation at the University of Alaska Anchorage (UAA) was similar. Many of the Alaska Native students who arrived at UAA had taken very few high school science courses and their mathematics level was at algebra 1 or lower. It would be years before these underprepared undergraduates would be eligible to take their first introduction to engineering course. The lack of academic preparation for these incoming first-year engineering students presented a formidable problem.

We searched for a solution where we could connect directly with the K-12 students. It had to result in the K-12 students being motivated to complete chemistry, physics, and trigonometry in high school. It had to develop the self-efficacy required to continue to pursue a challenging STEM curriculum. At

the university, we had to find a way for students to survive and then excel. We needed to develop an approach that was cost effective and led to successful university STEM course completion.

ANSEP began in 1995 with one private industry donation for student scholarships. There was no university, state or federal funding. Weekly pizza meetings, study sessions, co-enrollment, mentoring, and networking quickly grew from one student to ten students with Student Affairs collaboration. A dedicated living/learning community in the residence halls was added in 1996. The *Summer Bridge* component for incoming first-year students and paid summer internships for continuing ANSEP undergraduates were added in 1998. Additional funding was raised from private industry, Native corporations, and philanthropic organizations to provide programmatic and scholarship support for the growing student population.

ANSEP expanded its student community to include Alaska Native and American Indian undergraduates pursuing other STEM degrees. The *Pre-College* component, undergraduate research opportunities, and the *Graduate Success* component were added later. STEM undergraduates from other underrepresented ethnic and racial minority groups began seeking out the program because of the welcoming and supportive community. Additional non-state funding was raised to provide scholarships for the new students.

In 2001, ANSEP was awarded its first National Science Foundation (NSF) Louis Stokes Alliances for Minority Participation (LSAMP) and Partnerships for Innovation (PFI) grants. There were 22 Native undergraduates engaged in the program. During the 2009-2010 academic year ANSEP had 700+ participants. There were 400 program participants in grades 6 through 12, 300 enrolled in STEM BS degree programs, and 21 enrolled in STEM master's and doctoral programs. As of May 2012, there have been 407 underrepresented minority LSAMP STEM BS graduates from participating Alaskan universities since 2002. In 2001, ANSEP organized an alliance of universities and community colleges to disseminate the model across the nation. This alliance has expanded into eight additional states.

To support this work approximately $35 million in cash has been raised from private industry, Native corporations, philanthropic organizations, state and federal agencies, and individuals since 1995. ANSEP partners provided $6.5 million for a 14,000 square foot building to house ANSEP on the Anchorage campus of the University of Alaska Anchorage (UAA). They also provided $4.4 million for an endowed chair for ANSEP so that Alaska Native and American Indian STEM students will have a faculty advocate in perpetuity. The fiscal year 2013 budget is approximately $4 million, with $0.8 million from the State of Alaska general fund base. University funding was gradually obtained from the State of Alaska general fund base to institutionalize the core program staff originally funded through phase 1 and 2 of the NSF LSAMP grants. State funds now provide partial support for the ANSEP *Pre-College* component through the State of Alaska Department of Education and Early Development. The *Graduate Success* component is funded through the Alfred P. Sloan Foundation.

ANSEP Longitudinal Model

The ANSEP longitudinal model engages a group of more than 100 private corporations, philanthropic organizations, state and federal agencies, universities, high schools, and middle schools. The objective is to effect a systemic change in the hiring patterns of Indigenous Americans in the fields of science, technology, engineering and mathematics (STEM) by increasing the number of individuals on a career path to leadership in STEM fields.

It is widely accepted that the United States has fallen behind in producing the science and engineering talent necessary to maintain its technological edge. As noted by the National Action Council for Minorities in Engineering, [34, 35] the National Academies, [33] the National Science Foundation, [37] the Committee on Science, Engineering, and Public Policy, [21] and others, the United States is confronted with a problem that may require a generation to fix. The magnitude of the effort we face requires systemic solutions and sustained funding streams. We believe there is adequate funding within the current system. The problem is that much of the money spent nationwide is not producing the results we need. If the approaches we have taken in the past were effective the problem would not persist. In many cases we are paying for failure and have been for 40 years.

There are countless efforts underway around our nation that focus on students once they arrive at our universities. These efforts attempt to remediate academic deficiencies and bring students up to a level where they can be successful in college. This solution starts in the middle and attempts to undo what in some cases is 12 years of inadequate K-12 education.

ANSEP is a longitudinal string of components that provides inspiration, guidance, and opportunity for students. Beginning with sixth graders, structured programs lead students each step of the way through middle school and high school, into the undergraduate years, on to graduate school, and into professional life. At each level the goal is to create empowerment and excitement around engineering and science. ANSEP has arrived at this model after nearly 18 years of effort, aware that a fragmented approach that focuses on one area or level is not adequate to deal with the scope of the problem and ultimately falls short.

Each component is based on the fundamental Native principle that community is more important than the individual. ANSEP's goals are to:

- build a welcoming environment at the University;
- infuse values of community, family, and collaboration in all elements of the program;
- promote readiness, including early identification of students, motivation, and preparation;

- create bridging programs as well as internship and research opportunities that provide intense preparation for university and industry involvement.

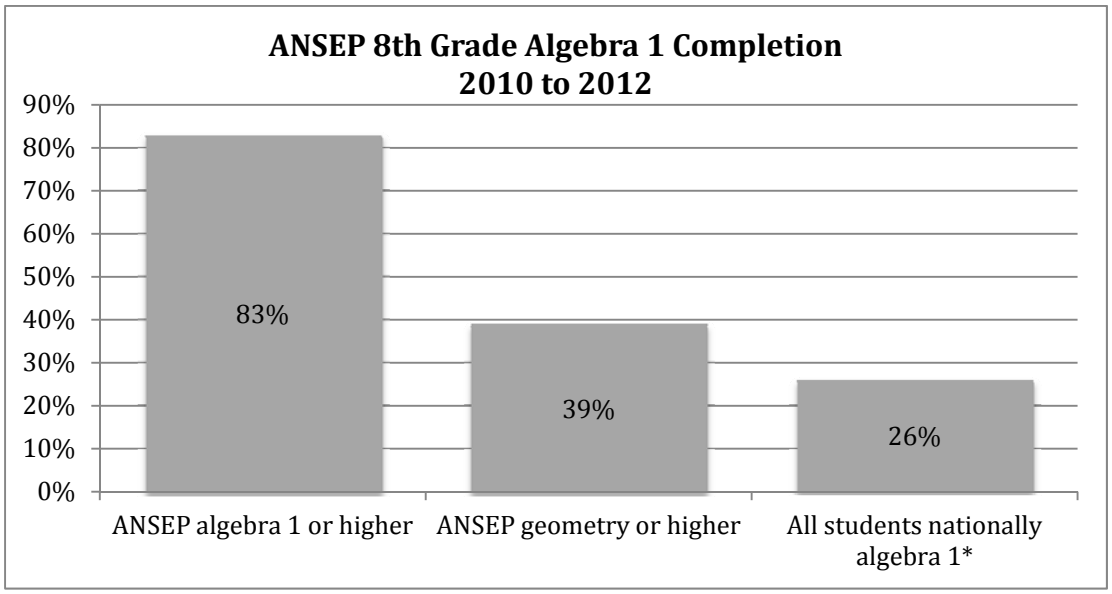
The Urban Institute conducted an evaluation of the National Science Foundation Louis Stokes Alliance for Minority Participation (LSAMP). The Urban Institute found that many of the strategies employed by LSAMP alliance organizations fostered the academic and social integration of underrepresented minority students pursuing bachelor's degrees in STEM fields. [19] The ANSEP undergraduate retention strategies that are consistent with the LSAMP strategies include: summer bridge programs, scholarships, peer study groups, skills building seminars, academic advising, tutoring, mentoring, undergraduate research opportunities, attending and presenting at scientific conferences, internships, and career awareness activities.

In addition, ANSEP provides middle school and high school academic enrichment components, a high school academic component, an undergraduate on-campus academic living/learning community, course co-enrollment, social and recreational activities, American Indian Science and Engineering Society (AISES) student club advising, a 14,000 square foot ANSEP learning facility, and a graduate student component. See Chart 1 for an overview of the components of the ANSEP longitudinal model.

Pre-College Components

Middle School Academy

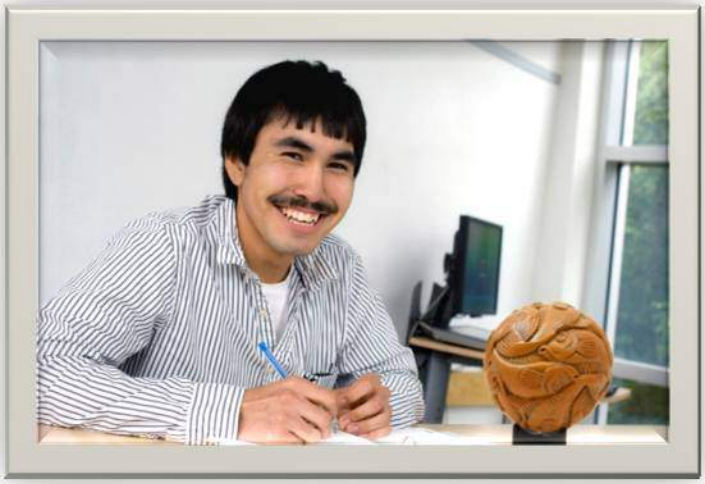
In partnership with the ExxonMobil and the Bernard Harris Foundation, ANSEP started the *Middle School Academy* during summer 2010. The *Academy*, the first component of the ANSEP longitudinal model, is a twelve-day, academic, and residential component that focuses on increasing the mathematics and science skills of middle school students while introducing them to college life. The main goal is to inspire students to successfully complete algebra 1 or higher prior to graduation from eighth grade. Eighty-three percent of our participants attain this objective, compared to the national average of 26 percent for all students completing eighth grade nationwide. [39] Graph 1 presents ANSEP middle school mathematics achievement data.



Graph 1

Students completing Algebra 1 or higher by the end of eighth grade, ANSEP student data compared to national student data. *Nord, C., Roey, S., Perkins, R., Lyons, M., Lemanski, N., Brown, J., and Schuknecht, J. (2011). *The Nation's Report Card: America's High School Graduates* (NCES 2011-462). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

On the first day of the *Middle School Academy,* each student assembles a top-end computer and loads the operating system and Microsoft Office software. Students then use the computers on various tasks related to the daily classes they take for the remainder of the *Academy*. Students attend classes that include problem solving, research, and communication skills incorporated with biology, chemistry, physics, environmental sciences, earth sciences, engineering and design concepts, and field excursions all led by industry professionals, certified classroom teachers, and university faculty. Activities are organized to provide STEM career visioning through hands-on experiments, projects, and field experiences for students. Activities include designing, building, and testing a balsa wood bridge, rainbow trout dissection, genetics experiments, and watershed modeling. These activities, and many others, are designed to provide students with an understanding of how science and mathematics are applied in STEM careers.



Each summer ANSEP hosts multiple sessions with 54 middle school students per session who are currently in sixth, seventh, and eighth grade and have at least a "B" average in science and mathematics courses. The number of selected students is equally divided by grade and by gender within each grade. All of the students live on our campus in the residence halls, learn to navigate the campus, and dine like college students.

Acceleration Academy

The objective for *Acceleration Academy*, the second component of the ANSEP longitudinal model, is for each student is to arrive for their freshman year at the university fully prepared socially and academically at an accelerated level for BS degrees in science and engineering. *Acceleration Academy* high school students:

- live in the residence community on the Anchorage campus for five weeks each summer;
- take two university-level courses in engineering, science, or mathematics;
- earn college credits towards a degree;
- gain knowledge and understanding about college life;
- learn to work as a team;
- complete hands-on career exploration activities in engineering, biology, geology, genetics, fisheries, and other science fields every weekend;
- build the confidence needed to be successful at any academic level, and
- earn scholarship money for use at any University of Alaska campus.

All of the *Acceleration Academy* courses are taught by university faculty. There are at least 50 *Acceleration Academy* students each summer. Students are eligible beginning the summer after graduation from eighth grade. Past students have completed most of the mathematics necessary for a degree in engineering prior to graduation from high school. Ninety-two percent of all past *Academy* students have advanced at least one level in mathematics or science during each Academy session and 75% have completed two full college classes and advance two full levels.

Computer Assembly

In *Computer Assembly*, high school students who have not been connected through the ANSEP *Middle School Academy* assemble a top-end computer and earn the right to keep it by completing trigonometry, physics and chemistry, and by showing future computer assembly students how to build computers. Students learn to use AutoCAD, Working Model, MS Office, GIS, and other software relating to STEM careers. Since 2002, ANSEP *Pre-College* students have assembled over 1,000 computers, and more than half of those who have now graduated from high school have successfully completed all three classes. This compares to what NACME (2008) calls the "4% percent problem" of underrepresented ethnic and racial minorities nationwide who graduate from high school "engineering eligible" [34]. This component has been replicated with similar outcomes in eight states with our alliance partner universities and colleges.

Summer Bridge Component

ANSEP *Summer Bridge*, the third component of the ANSEP longitudinal model, is for calculus-ready or further advanced students who have just graduated from high school. This component includes a for-credit, university-level mathematics class and a paid engineering or science internship with a partner organization. There are internship sites in town and in the field. *Summer Bridge* is supported in part by LSAMP.

In town *Summer Bridge* includes eight-week internships, daily calculus/other advanced mathematics for-credit classes, evening calculus/mathematics study sessions with undergraduate peer mentors from the *University Success* component, Friday "brown bag" sessions with practicing professionals from the community, and weekend group activities. Field *Summer Bridge* includes one week of safety training, a for-credit calculus or other advanced mathematics class, and a five-week field internship working with scientists and engineers. Each *Summer Bridge* student makes a presentation for the partner sponsors at the end of the summer. Students who successfully complete the component requirements are awarded scholarships.

Summer Bridge students:

- work on real projects with practicing engineers and scientists;
- earn money for college;
- complete a college-level mathematics class for credit toward their BS degree;
- solidify their vision of a career as a scientist or engineer;
- learn to navigate on the campus; and
- develop peer and university faculty relationships.

There have been 250 *Summer Bridge* students so far. Of these, 96% have successfully transitioned to BS degree programs in engineering and science. Twelve organizations currently sponsor *Summer Bridge* students.

University Success Component (LSAMP)

University Success is the fourth component of the ANSEP longitudinal model. *University Success* students are supported in part through LSAMP. During this component ANSEP works to foster an engaged learning community focused on academic success and professional development. Since 2002, there have been 230 Native scientists and engineers who have graduated from UAA and UAF. There were 425 Native STEM students enrolled during the fall 2011 semester.

The ANSEP undergraduate program-life retention rates are above 70%. ANSEP is designed to be an academic community that focuses on those areas where students have traditionally had difficulties. ANSEP students understand the importance of community. ANSEP helps students find ways to work together to be successful. Each student is required to complete and adhere to a contract that lists the requirements of the program in order to be in good standing and eligible for scholarships and internships.

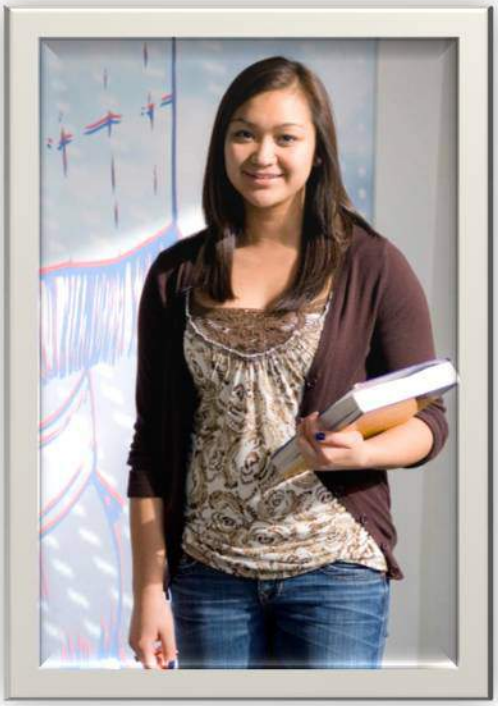
The ANSEP academic community for the *University Success* component is comprised of students, university faculty and staff, and external partners focused on the academic success as well as the personal and professional development of each student. Students are teamed. They are co-enrolled in classes, participate in organized study groups, are provided with opportunities for peer and professional mentoring, do undergraduate research projects, work summer internships, and participate in planned group social and professional development activities.

The goal is for each *University Success* student to:

- be effective at working together and understand the importance of a supportive community/study group;
- earn money needed for college through internships;
- earn scholarship support;
- develop a network of peer mentors;
- develop a network of professional mentors;
- complete a research project as an undergraduate;
- develop leadership skills by making presentations to students and professionals by describing summer internships and research projects;
- develop leadership skills by leading recitation sessions and mentoring other students;
- graduate with a BS in a STEM discipline; and
- transition to graduate school or the STEM professions.

Students are teamed in the academic community, supported by peers and professionals, working together for success. Many students live and study together on campus. Others come to ANSEP organized study groups.
Building a supportive peer group is a big part of why ANSEP students are successful.
13, 30

- **Scholarships.** Merit-based scholarships are provided by many of our industrial partners. Scholarships play an important role in retention, as many of our students would not be able to overcome the financial hurdle presented by educational costs without them. ANSEP alumni have an alumni dinner each December where they raise scholarship funds for the undergraduates. Approximately $0.6 million in scholarships were awarded during the 2012-2013 academic year.
- **Peer Study Groups.** Recitation sessions are designed to strengthen skills in the gateway courses like calculus, chemistry, computer programming, and physics. Junior, senior, and graduate students who have previously completed the course with a grade of "B" or higher lead the sessions. Students meet weekly and are required to get up and solve problems on the board and be able to explain what they are doing for the other students in the session. We have found this to be a very effective learning tool.
- **Skill Building Seminars.** Students are required to attend weekly team building meetings. These provide an opportunity for students to learn skills necessary for academic and professional success. ANSEP staff, other students, faculty, and professionals from our partner organizations come each week and we talk about success. Professionals from the community come to meet the students, make presentations, and explain jobs and opportunities available in engineering and science fields. ANSEP students make presentations on their research projects and internships so that others can see the array of career options. These meetings are an opportunity for us to see the students each week and to identify and mitigate problems before they jeopardize the student's academic success. We work to keep these sessions very informal and relaxed. We share pizza, bar-b-q, and traditional Native foods. The sessions are a powerful networking opportunity for the students with professionals, faculty, staff, and the other students.
- **Learning Center.** In October 2006, ANSEP moved into a new 14,000 square foot canoe shaped building on the campus at the University of Alaska Anchorage. The ANSEP Building is a home for all of the minority STEM students on our campus.
- **Academic Advising.** Advising sessions with faculty advisers and ANSEP staff are required at least twice each semester for first- and second-year students. We also have peer advisors available in our building.



- **Summer Academic Enrichment**. All students are required to work in their field of study in paid summer internships or research projects within ANSEP partner organizations. These applied learning opportunities provide for growth and professional development and provide the cash students need to attend the university.
- **Tutoring.** ANSEP peer tutors are available all day, every day in our building.
- **Research Experiences.** Undergraduate research opportunities are provided for the students through our graduate schools, industrial partner organizations, federal agencies, and state agencies. ANSEP works to connect each student with undergraduate research opportunities and foster mentoring relationships with current PhD candidates and research faculty. Students are encouraged conduct research with research scientists in one of their summer internships . ANSEP works locally with our University of Alaska campuses, National Science Foundation (NSF), and National Institute of Health (NIH) grantees to incorporate undergraduate research funding in their work. Nationally, ANSEP encourages students to consult the directory of active REU Sites and apply directly to the REU sites. ANSEP alumni graduate students working on the various research projects make presentations at weekly undergraduate team building meetings.
- **Peer mentoring.** Peer mentoring is incorporated in every component of the model, including peer study/recitation groups, co-enrollment in classes, skill-building seminars at the weekly meetings, research and internship experiences where students work together, tutoring, peer advising, social and academic enrichment activities, and others.
- **Professional Mentoring.** ANSEP students are mentored by professionals during their research experiences, summer internships, at the weekly meetings, and by our professional staff.
- **Conferences.** Students travel with faculty to national and international conferences and sometimes present their research findings. Annually, ANSEP sends students to the American Indian Science & Engineering Society (AISES) national conference.
- **Internships.** Summer internships are required so students earn the money they need for school, clarify their vision of a career in science or engineering, expand their professional network, and provide additional mentoring opportunities. Internships are productive for the employer and educational for the student. Internship sites in town are structured with time each week for interns to make field trips to suppliers and attend “brown bag” sessions where professionals explain important issues related to their profession.
- **Career Awareness.** Students are provided with opportunities to increase their career awareness through internships, research projects, weekly meetings, professional mentoring, peer mentoring, advising sessions, and conferences.
- **GRE Test Preparation.** ANSEP connects students and provides funding for private tutoring, small group instruction, local courses, and online courses.
- **Graduate School Admissions Support.** ANSEP provides financial, mentoring, and test preparation support for ANSEP students who are interested in graduate school. ANSEP provides some funding for students to visit schools they are considering attending.

- **Workshop on Teaching.** Dr. Raymond Landis and Dr. Vincent Tinto have led workshops on the UAA campus. ANSEP has sent 10 faculty and staff to Dr. Landis' Chautauqua short course titled "Enhancing Student Success Through a Model Introduction to Engineering Course".
- **Enrichment Activities.** ANSEP incorporates academic, curricular, and co-curricular enrichment activities in order to improve instructional performance and increase the motivation, performance, and progression of talented students within STEM undergraduate degree programs in preparation for graduate degree programs.
- **Distance Learning Courses.** All students are provided with the opportunity to take courses offered on other University of Alaska campuses through distance learning. Many of our students on the rural campuses take classes this way.

Graduate Success Component

ANSEP *Graduate Success*, the fifth component of the ANSEP longitudinal model, extends ANSEP community and support into graduate school. With the assistance of the Alfred P. Sloan Foundation, the University of Alaska Anchorage, and the University of Alaska Fairbanks, ANSEP started the *Graduate Success* component in the fall 2008 semester. Alaska Native and American Indian graduate students can earn fellowships and tuition support for STEM master's and PhD degrees. Each master's student receives a $32,000 fellowship and tuition costs. Each PhD student receives $38,000 in fellowship funds and tuition costs.

The ANSEP model is based on the fundamental indigenous value that stresses the importance of community before the individual. ANSEP undergraduate and graduate students work together to assure mutual success in each component. Graduate students have the opportunity to make a significant contribution to our undergraduate community because they have already demonstrated success by completing a STEM undergraduate degree. Graduate students are role models and mentors for all of the other students in our program. During the 2012-2013 academic year, there are 16 Alaska Native and American Indian STEM graduate students being funded. Each student is required to complete and adhere to a contract that lists the requirements of the program in order to be in good standing. Since beginning in the 2008-2009 academic year, 9 Native graduate students have earned STEM degrees from University of Alaska institutions, with 2 PhDs and 7 master's degrees.

Our goal for each ANSEP *Graduate Success* student is to:

- develop a network of peer mentors and colleagues;
- develop a network of faculty mentors;
- make professional presentations at national and international conferences;
- be skilled at developing research proposals;
- be skilled at conducting independent research;
- be skilled at developing technical papers;

- mentor undergraduate students;
- organize study groups for graduate and undergraduate ANSEP participants; and
- earn a master's or PhD in a STEM discipline.

Grow Your Own PhD

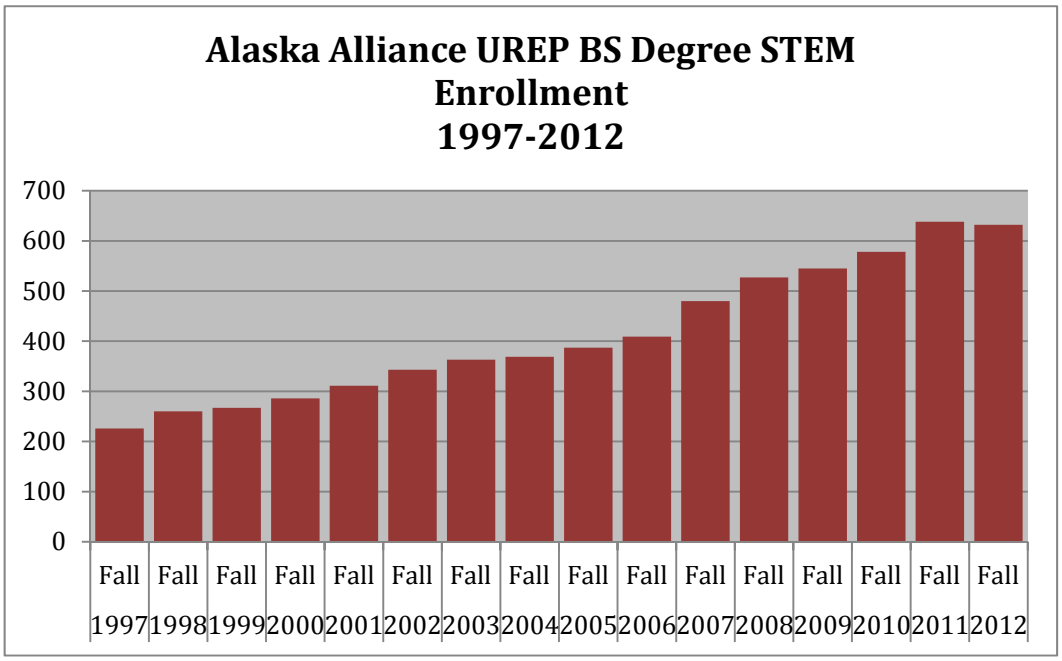
In 2008, ANSEP started the *Grow Your Own PhD* component. This component supports students pursuing PhDs in engineering and science who choose to travel to other universities for their degree. The goal is to have our students become faculty and return to our university. Support includes a fellowship and travel. Candidates are guaranteed a faculty position upon successful completion of their degree. There are two students currently participating. One will graduate this spring from the University of Colorado Boulder where he is earning a PhD in Civil Engineering. The second is at Purdue University where she is working on a PhD in Engineering Education.

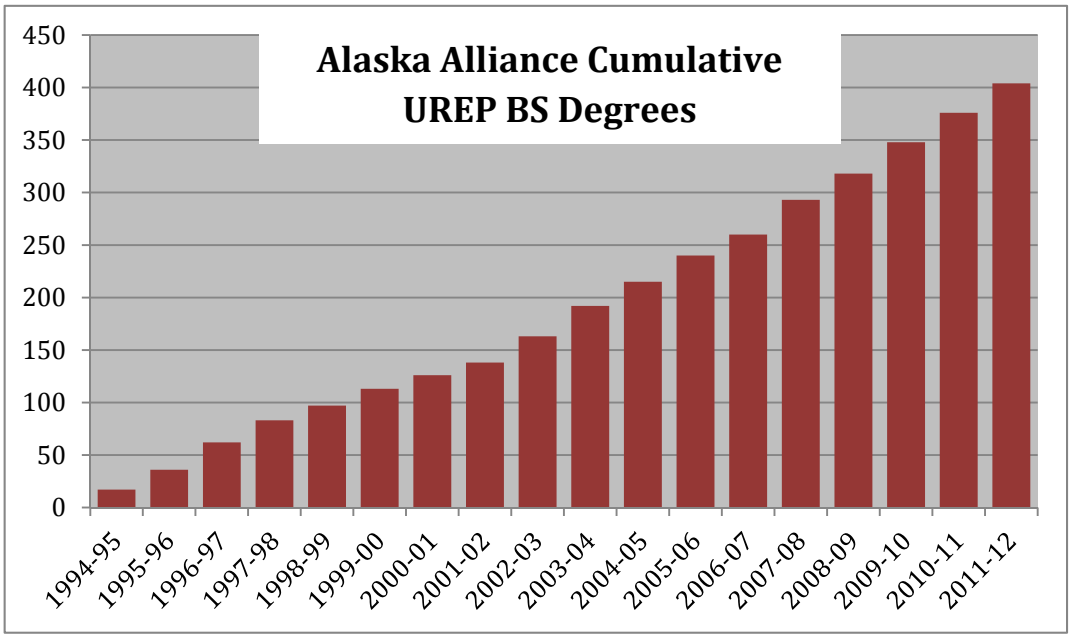
ANSEP Building

The ANSEP Building provides 14,000 square feet of space that is forever reserved for the students as a hub for learning, safety, and a community of belonging. The Tlingit dugout canoe design of the structure has become a landmark in our state. Students meet in the ANSEP Building to study and form the relationships that bring them success. The impact will endure for generations.
The ANSEP partners provided the funding necessary for construction. The students drove the design process and were adamant that the building overtly reflect Native culture and values. The building opened in October 2006. Having dedicated space provides an excellent venue for each of the ANSEP programmatic components.

Students, industrial partners, and university faculty and staff gather daily to learn from each other. All of the campus programmatic activities are conducted in the ANSEP Building. It has become a home.

Photo 1: The Alaska Native Science & Engineering Building at the University of Alaska Anchorage


Alaska Alliance UREP BS Degree STEM Enrollment 1997-2012
700
600
500
400
300
200
100
0
Fall 1997
Fall 1998
Fall 1999
Fall 2000
Fall 2001
Fall 2002
Fall 2003
Fall 2004
Fall 2005
Fall 2006
Fall 2007
Fall 2008
Fall 2009
Fall 2010
Fall 2011
Fall 2012


Alaska Alliance Cumulative UREP BS Degrees
450
400
350
300
250
200
150
100
50
0
1994-95
1995-96
1996-97
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12

Partner Organizations & Agencies

- ABR, Inc. - Environmental Research & Services
- Alaska Department of Fish and Game (ADF&G)
- Alaska Federation of Natives (AFN)
- Alaska Interstate Construction LLC (AIC)
- Alaska Native Tribal Health Consortium (ANTHC) – Division of Environmental Health and Engineering (DEHE)
- Alfred P. Sloan Foundation
- Alyeska Pipeline Service Company (APSC)
- Anchorage Water & Wastewater Utility (AWWU)
- Anonymous
- ANSEP Alumni
- Arctic Slope Regional Corporation (ASRC) - Energy Services (AES)
- Arctic-Yukon Kuskokwim Sustainable Salmon Initiative (AYK SSI)
- AT&T
- BP Exploration (Alaska), Inc.
- Bristol Bay Native Association (BBNA)
- Bristol Environmental and Engineering Services Corporation
- Bureau of Land Management (BLM)
- CH2M Hill
- Chevron
- Cook Inlet Region Incorporated (CIRI)
- Cook Inlet Tribal Council, Inc. (CITC)
- ConocoPhillips
- Denali Commission
- ExxonMobil Production
- First Alaskans Institute
- Ford Foundation
- Hawk Consultants LLC
- INBRE: Idea Networks of Biomedical Research Excellence
- National Institute of Health
- JL Properties, Inc.
- Jonathan Rubini and Suzanne La Pierre
- Kapiolani Community College (KCC)
- Kuskokwim Community College (KuC)
- Kuskokwim Native Association (KNA)
- Leonard and Tannie Hyde
- Microsoft
- NANA Development
- NANA Dowl HKM
- NANA Management Services (NMS)
- NANA WorleyParsons
- NASA Jet Propulsion Laboratory (JPL)
- National Action Council for Minorities in Engineering, Inc. (NACME)
- National Fish and Wildlife Foundation (NFWF)
- National Science Foundation (NSF)
- National Oceanic and Atmospheric Administration (NOAA)
- Northern Dynasty
- Norton Sound Economic Development Corporation (NSEDC)
- Peak Oilfield Services Co.
- Pebble Partnership
- Rasmuson Foundation
- Red Dog Operations Alaska
- SAIC
- Schlumberger
- Shell Exploration & Production
- Siemens Building Technologies
- SKW, Eskimos Inc.
- South Dakota School of Mines and Technology
- Summit Consulting Services, Inc.
- Teck
- The Nathan Cummings Foundation
- Udelhoven Oilfield System Services Inc.
- U.S. Army Corps of Engineers, Engineer Research & Development Center, Cold Regions Research and Engineering Laboratory (ERDC-CRREL)
- U.S. Department of Commerce - Economic Development Administration
- U.S. Department of Education
- U.S. Fish & Wildlife Service (USF&WS)
- U.S. Forestry Service (USFS)
- U.S. Geological Survey (USGS)
- University of Alaska (UA)
- University of Alaska Anchorage (UAA)
- University of Alaska Fairbanks (UAF)
- University of Arizona
- University of Colorado at Boulder
- University of Hawai'i Manoa
- University of Idaho
- University of Montana
- University of North Dakota
- University of Washington
- USKH
- Wells Fargo
- Yukon Kuskokwim Health Consortium (YKHC)

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