Graduating students & serving our communities

FY15 Operating & Capital Budget requests

August 2013
Research & teaching excellence

- Margaret Murie Building
  - Ribbon Cutting August 2013

Photo: Murie Collection
Margaret Murie at her graduation from the Alaska Agricultural College and School of Mines in 1924.
Award-winning faculty

- **A. David McGuire, College of Natural Sciences & Mathematics (CNSM) & USGS**
  - AAAS Fellow for distinguished contributions to terrestrial ecology
- **Erin Petit, CNSM**
  - National Geographic Society Emerging Explorer for glacier research and “Girls on Ice” outreach program
- **Ray Ralonde, Alaska Sea Grant Marine Advisory Program**
  - Superior Outreach Program Award, National Sea Grant
- **Mary Ehrlander, College of Liberal Arts**
  - Charles Gates Award, Washington State Historical Society Board of Trustees
- **Stephen Jewett, School of Fisheries and Ocean Sciences**
  - American Academy of Underwater Sciences Conrad Limbaugh Memorial Award for Scientific Diving Leadership
Student excellence

• Ian Wilkinson, art major
  – BFA thesis project, *Spheres of Influence*, raised more than $18,000 for the Fairbanks Food Bank

• Bente Heller, junior majoring in business
  – UAF’s 1st NCAA championship in swimming (100-meter backstroke)

• Nanooks claim AK Governor’s Cup
  – 12th time in tournament’s 20 year history
UAF Honors Program & URSA

• Honors Program
  – 21st year; 232 active student members
  – Growing by 15% annually
  – 18% increase in graduation/ completion rate in the past year
  – Awards over $60k in programmatic scholarships each year

• Undergraduate Research & Scholarly Activity (URSA)
  – 30% of baccalaureate graduates have an undergraduate research experience
  – Funding for students & faculty mentors: $200k since 2011; investing 1% of ICR
  – Over 60 undergraduates presented at UAF Research Day
Strategic directions: raising the bar

• Student achievement & attainment
  – Intensive advising to improve academic success
    • Attain baccalaureate six-year graduation rate of 40% (2016)
  – Expand eLearning & distance education
    • Centralize student interface, distribute revenue & credits
  – Updating general education requirements
  – Communicate academic quality & economic benefit
  – $1M for smart classrooms
  – Alternative offerings
    • WINTERMester, MAYMester, summer, weekends
Strategic directions: raising the bar

• Productive partnerships with schools
  – CLA $1.9M grant for improving K-12 outcomes for Alaska Natives
  – Effie Kokrine Charter School & IAC offering low cost, college level general education & electives through Tech Prep
  – Yoshikawa (INE) permafrost monitoring network >165 K-12 schools in Alaska & Arctic nations
  – Collaborative Teaching Models (CRCD) in Math
What a Joy!

- Nanooks welcome Joy, the 727 jet recently donated by FedEx
- The CTC Aviation Program is FAA-certified, and is one of few that can be completed in 12 months
Strategic directions: raising the bar

• Productive partnerships with industry
  – Mining
    • Mineral Industry Research Laboratory with Kinross Fort Knox and Sumitomo Metal Mining/Pogo
    • $3M donated to support graduate research opportunities
  – Fisheries
    • FSMI partnerships with the Pollock Conservation Cooperative Research Center
  – Aviation
    • FedEx to support aviation maintenance
  – Fairbanks Economic Development Corporation
    • Commercialization of research
- OIPC’s efforts began in 2011; in FY12 32 invention disclosures resulted in six patents filed by UAF
- In FY13, the number more than doubled, as part of the vigorous IP & commercialization identification efforts, putting UAF in line with peers
Strategic directions: raising the bar

- R&D for Alaska’s communities
  - Nanook Innovation Corporation (non-profit)
  - Nanook Tech Ventures (for-profit subsidiary)
    - Infrasound microphone (defense & surveillance - Northrup Grumman)
  - Alaska Center for Unmanned Aircraft Systems Integration
    - One of six centers, also partnered with Oregon & Hawaii
  - Alaska Satellite Facility dish
  - Alaska EPSCoR
  - Center for Alaska Native Health Research (CANHR)
    - $5.3M grant for researching Alaska Native Health disparities
    - 12 pilot projects for UAF junior scientists & researchers
Strategic directions: raising the bar

• Accountability to the people of Alaska
  – Process improvement & efficiency
    • Employee pre-recruitment (HIRED)
    • Award set-up (GPS)
    • Procurement (SUPER)
    • Travel (TRIP)
    • Student business processes
    • Marketing & Communications intake & workflow
  – Ongoing assessment - support programs
  – Academic and research program review
Student achievement & attainment

Baccalaureate FTFTF 1-year retention (%)
- 76.5
- 79.3
- 82.8

Baccalaureate FTFTF 6-year graduation rate (%)
- 32.6
- 38.2

Associate-level FTFTF 1-year retention (%)
- 47.0
- 53.7

Associate-level FTFTF 3-year graduation rate (%)
- 12.0
- 23.0
Student achievement & attainment

Baccalaureate Track-15 (%)
- 29.7
- 32.2

Associate Track-15 (%)
- 10.5
- 11.4
- 15.7

Student credit hours (thousands SCH)
- 168
- 188
- 192

eLearning student credit hours (thousands SCH)
- 18.7
- 25.9
Research & development

Research expenditures ($M)

$110 $114 $124

Ph.D. awards

37 52
<table>
<thead>
<tr>
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<th>University generated revenue ($M)</th>
<th>Tuition &amp; fee revenue ($M)</th>
<th>Instructional expenditure/SCH ($)</th>
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<td></td>
<td>$213</td>
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FY14: Strategic reductions to enable investment

• Balance the budget & preserve quality programs
• Move programs out of leased space onto campus
• Energy conservation & management
• Vacancy management
• Vice Chancellor plans in lieu of ATB pullback
• Campus & community feedback opportunity for cost savings & efficiencies

Implementing sustainable change

• Administrative Services
  – Reorganize Dining & Polar Express with Bursar’s Office; eliminate vacant positions

• Office of Information Technology
  – Explore service consolidation & delivery

• University & Student Advancement
  – Downsize Career Services, reduce services & create new long-term plan for student career support
  – Eliminate Athletics administrative position through reorganization; reduce travel
Implementing sustainable change

• Provost’s Office & academic programs
  – Eliminate administrative, support & faculty positions where vacancy exists or can be managed
    • Two associate deans, eight faculty, eleven staff
  – Reduction of eleven graduate assistantships at various schools/colleges
  – Merger of SNRAS & CES

• Research
  – Eliminate VCR administrative position
  – Discontinue ARSC funding increase(s)
FY15 Operating Budget request
Fixed costs

• Personal services
  – Faculty/staff raises $3.4M GF / $3.4M NGF
  – STEM faculty market adjustment $1.5M / $1.5M

• Non-personal services
  – Smart classrooms, library $410k / $1.7M
  – Coop. Extension NRF replace $400k / ($400k)
  – Facilities M&R $1.2M / $720k
  – Utility costs $2.6M / $700k
  – New facilities $400k / $65k
  – P-3 housing $0 / $5M
FY15 Operating Budget increments

• Strategic direction requires strategic investment
• UA / UAF can help the state through budget challenges
• We need to make the case for strategic investment in higher education & research
Student achievement & attainment

• Alaska 2+2 collaborative Veterinary Medicine program: $200k / $243k NGF
• Essential faculty clinical-community PhD & undergraduate Psychology program: $454k
• Nursing faculty at Bristol Bay Campus: $50k / $50k
• Mandatory comprehensive student advising (CRCD): $197k / $14k
• STEM capacity & student success in general Chemistry - gateway to science & engineering careers: $140k / $53k
• E-Learning expansion for online high demand job degree areas: $576k / $170k

*Note light blue items received part funding in previous years.
Productive partnerships with Alaska’s public/private industries & schools

- Chemical Engineering program: $500k / $120k
- UAF Film program expansion: $215k / $90k
- Workforce development - expand Construction Trades program: $46k / $20k
- Museum curator for Alaska Native cultural artifacts & asst. professor: $44k / $40k
- Fisheries Seafood & Maritime Initiative: $315k
- Math prep. program in rural high schools: $136k
- Increase engineering graduates: $120k / $32k
R&D to sustain Alaska’s communities & economic growth

• Alaska critical & strategic minerals, fossil fuels & energy: $495k / $500k
• Commercialization of intellectual property for business development: $200k / $50k
• Ship time for Alaska specific research: $500k / $15M
• Electronic journal subscriptions for Rasmuson Library: $250k
FY15 Capital Budget request
Breaking ground

• Wood Center P-3
  – 34,000 square-foot expansion project
  – Fall 2014

• College of Engineering & Mines
  – 120,000 square-foot modern classroom & lab space for engineering & research programs
Deferred maintenance and R&R completion status

FY09-FY13: 84% of projects complete to date

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<th>Fiscal Year</th>
<th>State Funding</th>
<th># of Projects</th>
<th>% Complete</th>
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<tr>
<td>FY14</td>
<td>$17.4 M</td>
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FY15 Capital Budget overview

- Deferred Maintenance / R&R: $23M
  - Cogen Heating Plant upgrades
  - Critical electrical distribution
  - Fairbanks campus main waste lines, roof replacement
  - West Ridge facilities
  - ADA code compliance; elevators & alarms
  - Lower campus backfill
  - Patty Center revitalization
  - Campus infrastructure
  - Tilly Commons demolition
  - Wood Center student services renewal
  - Kuskokwim Campus voc-tech renewal
FY15 Capital Budget overview

- **Engineering Completion**: $33.3M / $10.0M (cash/UA bond)
  - partnering with UAA for final phase
- **Cogen Heating & Power Plant**: $200M / $45M (GO/UA bond)
- **Planning (future construction)**: $2.6M
  - Univ. Fire Dept Emergency Services & Management: $700k
  - CTC Emergency Services Training Center: $900k
  - P-3 Parking Garage: $350k
  - Kuskokwim Consortium Learning Center: $700k
- **Facility acquisition**
  - Bunnell House replacement: $250k
  - Northwest Campus realignment: $150k
FY15 Capital Budget overview

- **Academic equipment & technology**: $5.97M / $1.2M NGF
  - eLearning technology; wireless connectivity
  - Advanced analytical instrumentation; energy R&D
  - Mat-Su test kitchen / outreach center
  - IAC/CTC welding equipment, library digitization

- **Research for Alaska**: $11.9M / $45.0M NGF
  - Opportunity investments $3.0M / $3.0M NGF
  - Community partnership self-reliance $1.0M
  - Earthquake prediction & monitoring $5.0M / $40.0M NGF
  - Arctic Oil Spill Response $1.0M / $2.0M NGF
  - Mapping Alaska $1.9M
For Alaska’s future
Campus energy is the foundation

- 3.1 million square-feet of academic, research, office & housing space
- Average age of buildings: 34 years
- More than 170,000 square feet coming online by 2015
- All these things need heat & power
Current Combined Heat & Power plant
Atkinson plant
Two coal boilers (1964)
One oil boiler (1970)
One oil or gas boiler (1987)

Steam: to heat campus

Creates

Runs turbines to create

Electricity

We also have:
• 10 megawatt diesel generator
• Electrical distribution system
Key considerations

• Risk of catastrophic failure (current plant’s 50-year lifespan is nearing)
• Environmental responsibility
• Regulatory climate
• Political reality in Alaska & the nation
• Alaska’s uncertain energy future
• The economics for UAF, our programs & students
• Responsible stewardship of state funds
Why not buy power from GVEA?

- We need electricity & heat
- The current electrical grid cannot supply both our power & heat needs at a reasonable price
- GVEA can provide us electricity for lights & equipment, but that does not heat the campus
- So, closing our plant is NOT a viable option
Fairbanks Campus energy sources

$9.8 million annual fuel cost (2012)

- 71,000 tons of coal
- 678,000 gallons of oil
- 51 million cubic feet of natural gas
What if the main boilers fail?

Enormous increase in fuel costs that can harm:

• The programs we provide
• The research we do
• The students we serve

• And gas is available only in interruptible supply
A diversified energy portfolio
Flexible, sustainable, fiscally responsible

• Anchored by a new 17 megawatt circulating fluidized bed (CFB) boiler
  – Flexible solid fuel
  – Coal with up to 15 percent biomass

• Replace oil boilers with gas or propane

• Purchase renewable energy, when available

• Energy conservation on campus

• Renewable projects on campus (solar)
What about gas?

Fairbanks does not have natural gas - yet
The new plant will reduce emissions

- Oxides of Nitrogen (NOₓ): 65% Decrease
- Carbon Monoxide (CO): 44% Decrease
- Total Particulates (PM): 66% Decrease
- Coarse Particulates 2.5 – 10 micrometers (PM 10): 73% Decrease
- Fine Particulates < 2.5 micrometers (PM 2.5): 38% Decrease
- Sulfur Dioxide (SO₂): 71% Decrease

VOC (volatile organic compounds) and CO₂ emissions rates remain unchanged.
Project schedule

• Completed
  – Preliminary design & cost estimate
  – Independent review of cost estimate
  – Preparation/submittal of air quality permit

• This fiscal year
  – Permit process completed
  – P-3 possibilities explored, decision made
  – Total project cost and alternatives presented to Board of Regents, Governor, Legislature
Ideal project schedule

• FY14
  – Procurement of boiler (engineering cost)
  – Selection of CM@R or P-3 contractor

• FY15
  – Procurement of major equipment
  – Balance of plant design
  – Building & utility relocation
  – Foundation beginning spring 2015
Ideal project schedule

• FY16-FY17
  – Construction
  – Commissioning August 2018

• Risks / challenges
  – Air quality permit approval / challenges
  – Natural gas alternative
  – Legislative / community support
  – GO bond timing / passage
  – Construction cost overruns
Closing thoughts

- Strategic direction requires strategic investment
- UA / UAF can help the state through budget challenges
- We need to make the case for strategic investment in higher education & research
NATURALLY INSPIRING