



September 4, 2018

## Alaska Community Challenge Updated Project List

Alaskan companies, startups, nonprofit organizations, public agencies and UA faculty and students have been invited to share with students their challenge or problem they think would be an educational student project, valuable to have completed and help share the resources of the university across the state. Here is a list of the current projects available for students this fall. Students are also welcome to add their projects if they would like to promote their projects to students in other programs or campuses.

Title of Idea	Summary	Discipline
Production equipment design for Tundra Tape Sidewalk Snowmelt system.	The proposal is for engineering assistance in commercializing a patent held by UAA and licensed to Arctic Heat Technologies in Anchorage for Tundra Tape. Tundra Tape is a carbon fiber based product for snow-removal.	<b>Science,</b> <b>Business,</b> Logistics, Mechanical <b>Engineering</b>
iA3 iloT Acoustic Process Monitoring and Control	Use an acoustic hardware sensor that iA3 has built and develop a software machine learning system to fingerprint the acoustic emissions that can be used in process monitoring and control.	Computer or Electrical <b>Engineering,</b> <b>Information</b> <b>Technology</b>
Modular Space Tether System	Self assembling/ repairing tether system which can be adjusted under load	<b>Engineering,</b> <b>Information</b> <b>Technology</b>
Aircraft Cargo Loading System Pricing Model	Analyze cost of manufacturing one unit and up / distribution and support for one unit and up / management team! Strategic hiring of team	<b>Business</b>
Port Apache Tika PST parser into Golang	Software development - Port Apache Tika PST parser into Golang	<b>Engineering,</b> <b>Information</b> <b>Technology</b>
Drone Image Analysis	Develop algorithms to analyze drone data for fish, wildlife, and natural resource management	<b>Science,</b> Fishery and Ocean Science, <b>Computer</b> <b>Science</b>

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**INTELLECTUAL PROPERTY  
AND COMMERCIALIZATION**

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Quick Bites - Mobile/Web App Coffee Cart Pre Order system.	Business Operating System Development - Assist in software development	<b>Business,</b> <b>Engineering,</b> <b>Information</b> <b>Technology</b>
Market Study - Folding Footrest	Marketing Study for a startup launching a proprietary folding footrest consumer product	<b>Business</b>
Remote Meeting Technology and Facilitation	Research, design and test new tools and methods of engaging people in multi-modal meetings. Could be multiple projects.	<b>Science,</b> Arts and Humanities, <b>Business,</b> <b>Engineering,</b> <b>Information</b> <b>Technology</b>
The Avy Pouch - Avalanche Airbag	A lifesaving airbag that can be attached to any backpack. Used when avalanche is a danger.	<b>Business,</b> <b>Engineering,</b> Outdoor Recreation
JawLogic (Human Mouth Appliance)	System to become software to create ideal dental appliance for a particular patient needs. Includes 3d imaging, automated 3d design/configuration, 3d printing.	<b>Science,</b> <b>Engineering,</b> Health, <b>computer</b> <b>science,</b> mathematics
Industrial Product Marketing	Research and design an online marketing approach for a novel industrial product and help overcome the obstacles of an Alaskan manufacturing company growing sales in the rest of the US.	Arts and Humanities, <b>Business,</b> <b>Information</b> <b>Technology</b>
Startup Employee Benefits	Research and design a solution to offer AK startup company employees health care and retirement programs.	<b>Business</b>
Spread Love & Cream Cheese: Bagel Manufacturing	Research the business operations and market viability of manufacturing handcrafted, New York style bagels on the Kenai Peninsula; as well as options for distribution to retail locations throughout Alaska.	<b>Business</b>
Healing Hearts & Paws	Design data collection and test collection	<b>Science,</b>

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Program	and analysis of animal assisted therapy.	<b>Business,</b> <b>Information</b> <b>Technology,</b> Health, Public Policy and Justice, Education
Human Turntable	A turntable a person can stand on to be 3d Scanned. The sponsor has the 3d scanning system and color 3d printing system, but needs a system to support and rotate a human.	<b>Science,</b> <b>Engineering,</b> Education
Wind Turbine Foundation Design	Research and design grouting formulas for wind turbine foundation anchors for various soil conditions. Includes design of tests and data collection.	<b>Science,</b> <b>Engineering,</b> Education
Forecasting wind power generation with numerical weather prediction data	Wind forecasts of weather prediction models will be used to predict the wind power that can be generated by the Eva Creek wind farm.	<b>Science,</b> <b>Engineering</b>
Optimizing of heating	Use numerical weather prediction data to reduce heating costs	<b>Science,</b> <b>Engineering,</b> <b>Information</b> <b>Technology</b>
Enhancing Methane Production with Local Zeolite	Investigate the effect of AK sourced mordanite on methane production in anaerobic digesters	<b>Science,</b> <b>Engineering,</b>
Paints Made from Alaskan Materials	Develop a range of paints which will work on Alaskan stone materials.	<b>Science,</b> <b>Business,</b> <b>Engineering</b>