Emerging Technology Initiative Application

The Deep Technology Talent Initiative, Board policy R430, provides funding for expanded programs in deep technology. Per the policy, the initiative should facilitate collaborations that create expanded, multidisciplinary programs or stackable credential programs in both undergraduate and graduate studies that prepare students to be workforce participants in jobs requiring deep technology skills. An institution of higher education seeking to partner with a participating employer to propose a new program is eligible to submit a proposal.

Deep Technology

Technology leads to new products and innovations based on scientific discovery or meaningful engineering innovation. Deep technology may include technology that leads to new products and innovations related to one or more of the following:

- Advanced materials
- Alternative energy
- Artificial intelligence
- Augmented and virtual reality
- Autonomous vehicles
- Agricultural Technology
- Biotechnology
- Nanotechnology
- Photonics
- Quantum computing
- Robotics
- Secure computing
- Other emerging technologies

Grant Narratives will:

- Be responsive to Utah's deep technology talent needs by involving industry in the project's design.
- Include a partnership between at least one participating employer and at least one institution of higher education.
- Address a previously unmet state need related to deep technology. Eligible programs are focused on the creation of future workforce involved in the development of new technology as opposed to the implementation of existing technology. Focus should be on development of graduates suitable for interdisciplinary positions within research and development with employers involved in novel deep technology.

Funding
- Funding is available for one-time or ongoing projects.
- On-going projects are limited to 3 years of funding with the ability to apply for additional continuing funding.
- $1.6M Ongoing Available
- $960K One-time Available

Application Due Date: Friday, March 18, 2022

Submit applications to: steve.radford@ushe.edu

A complete application will contain the following:

- Grant Outline (template provided)
- Budget Spreadsheet (template provided)
- Grant Narrative (maximum of 10 pages)
- Letters of Support

Program Application
1. Describe the proposed program, purpose, and audience. Include in the description an estimate of:
   a. The integration of Deep Technology, how it meets an identified industry category and how it will relate to the current or future workforce focused on the development of new technology.
   b. Student enrollment in the program.
   c. The academic credit or credentials that will be provided by the program. (Programs should be at the bachelor level or above)
   d. Occupations for which graduates will be qualified and an analysis of forecasted industry growth in Utah for the next 5-10 years. Optional submission: Current employer job descriptions for which graduates would be qualified.
2. Describe how the proposed program will expand the capacity to meet state or regional workforce needs related to deep technology
   a. Include letters of support from regional/state employers.
   b. Include evidence that each participating employer is committed to participating and contributing to the program by providing any combination of instruction, extensive workplace experience, or mentoring.
   c. Include a description of any resources each participating employer will provide in the program.
3. Describe how the proposed program will integrate deep technology competency with disciplinary expertise
   a. Describe the curricular approach to integrating multidisciplinary competencies.
   b. Describe how industry professionals would participate in curriculum development and teaching.
   c. Describe how the program will incorporate internships, work-based learning, or significant project experiences, including team-based experiences within the curriculum.

d. Describe the credential earned, including potential stackability in both undergraduate and graduate studies as appropriate.
4. Describe the qualifications and expertise of faculty or staff and their demonstrated willingness to lead the proposed program. Include resume/vitae in the attachments to the application.
5. Describe the partnerships with other higher education institutions. How will these partnerships facilitate the stackability of curriculum between institutions now or in the future? 6. Describe the timeline for program implementation including any program approval process necessary, recruitment, enrollment and completion indicating when required reporting elements can be expected.
   a. Include a description of how the institution will collect and report on the required data elements including number of participants, number of graduates, and employment of graduates, recognizing that system/state data will not be available for many programs.
6. Submit a budget proposal for the program, including a narrative justification of budget categories.

Programs will be evaluated by the Advisory Committee using the following criteria:

1. Ability of the proposal to expand the capacity to meet state or regional workforce needs related to deep technology.
2. Integration of deep technology competency with disciplinary expertise.
   a. Identification of a faculty member or other individual who has the expertise and a demonstrated willingness to lead the proposed program.
   b. The ability to which the interdisciplinary curricular approach will produce graduates capable of working at the research and development level of an organization upon graduation.
3. Value of partnerships and collaborations between the institution and regional/state employers and education.
   a. Quality of internships or significant project experiences, including team-based experiences.
   b. Quality of integration of industry professionals participating in curriculum development and teaching.
   c. Quality of partnerships with other higher education institutions.
4. Potential for stackability in either undergraduate or graduate programs.
5. Need to be served by graduates entering the workforce pipeline.
6. Cost-effectiveness

Institutions awarded funding will be required to report the following on an annual basis:

1. The number of participating students in each program.
2. The number of graduates of the program.
3. The number of interns participating in the program and the company for whom they are interning.
4. The number of graduates of the program employed Utah in jobs requiring deep technology research and development skills, including the name of the employer when possible.