UTAH SYSTEM OF HIGHER EDUCATION
TALENT READY UTAH

Engineering and Computer Science Initiative Request for Proposals

Established in 2001, the Engineering and Computer Science Initiative established a goal to increase the number of students graduating from engineering, computer science, and related technology programs. In 2025, the Utah Legislature, through SB 03, allocated an additional $4 million of ongoing legislative appropriations towards the direct costs associated with expanding and creating engineering and computer science degree programs at Utah System of Higher Education degree-granting institutions. This initiative is vital for addressing workforce shortages, driving industry growth, and securing high-wage careers.

Grant Objectives

- **Expand Engineering and Computer Science Program Offerings**. Create and expand engineering and computer science offerings—across all levels of degrees —to enhance educational opportunities and meet industry demands. This initiative aims to provide students with diverse and comprehensive degree options in Engineering and Computer Sciences required for high-demand occupations.
- **Foster Innovation to Address Emerging Workforce Needs.** Support the development and adaptation of programs that respond to emerging occupations in engineering and computer science. This includes advancing curriculum in areas such as artificial intelligence, cybersecurity, quantum computing, sustainable systems, robotics, and advanced manufacturing. The goal is to equip students with future-ready skills through flexible, interdisciplinary, and innovative degrees.
- **Modernize Lab Infrastructure to Reflect Industry Standards.** Upgrade and modernize engineering and computer science lab equipment across USHE degree granting institutions to ensure students receive hands-on training using equipment and technologies relevant to real-world applications and current industry standards.

Eligibility

- The primary applicant must be a degree granting postsecondary institution within the Utah System of Higher Education, as defined in Utah Code §53B-1-102.
- Applications must include a partnership between at least one Utah-based employer and the applying postsecondary institution.
- A one-to-one dollar match is required from each institution recommended to receive funding under this appropriation. The one-to-one dollar match must be from new

investments and not current programmatic or department related expenses and must be used to fund programs that are in alignment with the Engineering and Computer Science Initiative 53B-6-105.

- Programs seeking funding should be aligned to engineering, computer science, and related technology programs (including CIP codes 11, 14, and 15) as defined in Utah Code 53B-6-105.

Program Length

This program aims to expand the number of skilled professionals entering high-demand engineering and computer science occupations. The length of the programs will vary and be commensurate with the degree being inferred. Associate, bachelor, master, and doctoral degree submission will be considered where industry demand exists.

Program Implementation Timeline

Applicants must include a detailed implementation timeline in their proposal. The timeline should consider the respective institution's curriculum review process, hiring, and curriculum development timelines, as applicable.

Budget

Requested funding will be used solely for the direct costs associated with the program. The cost per student should be in line with the published institution's cost per student. Funding for general administration is not allowed.

As part of the Engineering and Computer Science Initiative, 15% of the total program funds have been earmarked to provide one-time funding to modernize lab infrastructure and equipment in alignment with current industry standards.

- Institutions may submit a request for equipment funding as part of their Year One proposal submission.
- Equipment funding will not be considered for ongoing funding requests and should be limited to one-time investments.
- All equipment requests must be clearly detailed in the Budget Worksheet and justified in the Budget Narrative, including how the equipment aligns with the program objectives and supports workforce readiness.

Allowed Budget Categories:

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Salaries & Benefits

- Salaries: Compensation for faculty, staff, and other personnel directly involved in the project, including those working on curriculum development.
- Benefits: Health insurance, retirement contributions, and other fringe benefits related to the personnel.

Equipment (Year One Only)

- Non-Capital Equipment: Purchase of items with an acquisition cost greater than or equal to $3,000 but less than $5,000.
- Capital Equipment: Purchase of a single item (not invoice) that costs $5,000.00 or more, is freestanding, and has a use life of one year or more.

Supplies

- Program-specific Supplies: Specialized materials necessary for the project, such as educational resources, curriculum development software, and scientific supplies.

Contractual - Subcontractual Services- (TRU Approval Required)

- Subcontracts: Agreements with external organizations or individuals to perform specific tasks or services directly tied to the program i.e. accreditation review, licensing fee, certification, new equipment installation, addressing infrastructure inadequacies, etc.

Talent Ready Utah must approve changes to the program's final budget or program scope before they are made. If the grant funds are not used in compliance with the specified guidelines or if any disclosures are inaccurate or incomplete, Talent Ready Utah reserves the right to reclaim the awarded funds.

Subcontractors

The use of subcontractors is allowable for this grant. Applicants must clearly identify the consultant/subcontractor they propose, the services the consultant and/or subcontractor will provide, and must clearly state how state funding will be spent for services provided by the consultant/subcontractor included in the proposed budget. The use of any consultant/subcontractor must comply with the institution’s procurement/finance policies and is subject to the approval of Talent Ready Utah.

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Matching Funds Requirement

As a condition of funding, each institution recommended for an award must provide a one-to-one dollar match to support the proposed program. The one-to-one dollar match must be from new investments or reallocations and not current programmatic or department related expenses. Matching funds must be used to fund programs that are in alignment with the Engineering and Computer Science Initiative 53B-6-105. The following guidelines apply:

- Source of Match: Matching funds must be contributed by the applying institution, excluding funds from the participating engineering or computer science department. Central institutional funds or other non-departmental resources may be used to fulfill this requirement.
- Use of Match: All matching funds must directly support the objectives and activities outlined in the proposed program. Acceptable uses include—but are not limited to—faculty or staff salaries, curriculum development, lab upgrades, instructional materials, or student support services.
- Documentation in Budget: The full value and use of the matching contribution must be clearly reflected in the submitted budget. Institutions must identify the source of the funds and align expenditures with specific program components. Qualifying institutions shall annually report their matching dollars to the board as per 53B-6-105.9.
- Verification: Institutions may be required to provide documentation verifying the availability and use of the matching funds during the performance and reporting period of the grant.

Failure to provide and document the required match may impact eligibility for funding or continued participation in the program. Talent Ready Utah must approve changes to the program's final budget or program scope before they are made. If the grant funds are not used in compliance with the specified guidelines or if any disclosures are inaccurate or incomplete, Talent Ready Utah reserves the right to reclaim the awarded funds.

Payment Disbursement

Grant funds for this initiative will be initially dispersed upon the execution of the memorandum of understanding by all parties. Ongoing funds will be added to the institution’s base funding for FY27. Funding will continue as long as the Utah State Legislature continues funding and the institution continues to operate the proposed program.

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Reporting and Data Collection

The institution shall provide a comprehensive annual report inclusive of all funds awarded through the Engineering and Computer Science Initiative. For reference, **Attachment A** includes a sample annual report that outlines the level of detail and formatting expected for submissions.

Reports must include updated data from July 1 through June 30 of each fiscal year and be submitted by the second Tuesday of September. The first report is due September 9, 2025. As applicable to the program, and outlined in the memorandum of understanding, the annual report will include:

1. Enrollment
    a. Number of students enrolled in the programs funded via Engineering and Computer Science Initiative by year.
    b. Percentage increase or decrease from the previous years.
2. Graduation
    a. Number of students who have completed initiative-funded programs by year.
    b. Degrees conferred (provide a number by degree type and program).
    c. Graduation rates of students enrolled in initiative-funded programs.
3. Job Placement
    a. Number of students placed in relevant employment in initiative-funded programs.
    b. Median starting salary of students that have completed initiative-funded programs.
4. Industry Collaboration
    a. The number of partnerships established between initiative-funded programs and Engineering and Computer Science employers.
    b. The number of internships and/or work-based learning opportunities facilitated through industry partnerships.
    c. How initiative-funded programs have incorporated industry feedback into the curriculum.
5. Research, Innovation, and Commercialization
    a. Number of patents, publications, and other intellectual property generated by initiative-funded research as a result of the program.
    b. The number of startups or spin-offs originating from initiative-funded research.
6. Administrative
    a. Number of faculty, instructors, staff, and professors hired with awarded funds.
    b. Key vacancies throughout the year.

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c. An annual budget summary, including a breakdown of expenditures and a detailed accounting of the institution's one-to-one match—actual and projected—for the upcoming fiscal year.

Talent Ready Utah may request verification of reported outcomes, including anonymized student-level data, employer validation, and financial records.

Evaluation Criteria

The proposal review and evaluation process will be competitive and conducted utilizing a fair and objective process. An evaluation committee will review and score proposals using the scoring rubric below.

Category	Total Points	Weight
Introduction/Need Assessment	15	10%
Program Management	25	20%
Implementation	15	20%
Performance Outcomes	20	25%
Budget	25	25%
Total Possible Points	**100**	**100%**

If the evaluation committee requires further information to recommend, Talent Ready Utah may contact the respective institution that submitted the proposal for additional information and/or revisions.

RFP Information Session and Questions

- **When:** April 28, 2025, 11:00 – 12:00 p.m.

  Applicants and others interested in the Engineering and Computer Science Initiative RFP are invited to a virtual RFP information session.
- **Where:** Zoom
- **What:** This information session is an opportunity to ask questions about the proposal requirements and online proposal submissions, with Talent Ready Utah staff present

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to share information and answer questions.

- **Register:** To register for the RFP information session and receive a meeting invitation, click here.

A recording of the RFP Information Session will be emailed to all registered participants and posted on the Talent Ready Utah web page.

Proposal Timeline

The proposal must be submitted online here.

- Proposals are due by 5:00 p.m. on May 23, 2025.
- Proposals for this initiative will be reviewed quarterly if funds are available.

Proposal Review and Questions from the Review Committee

- All submissions will be initially verified. Applicants should be prepared to respond to requests for clarification or additional information.
- Applicants should be prepared to respond to final requests for clarification or additional information.

Engineering and Computer Science Talent Council Committee Recommendations to the Utah Board of Higher Education

- After reviewing the proposal, the committee will present its recommendations to the Talent Ready Utah Board.

Award notification to awardees

- Award notifications will be emailed to the contact listed on the application upon the Utah Board of Higher Education's final decision.

Award Start Date

- Institutions should anticipate a start date after July 1, 2025.

Submission Process

Each institution will upload its application (proposal) documents via Google Forms. An automatic confirmation email will be sent verifying the receipt of the proposal submission. The following documents are required for each application:

- Proposal Narrative
- Budget Narrative
- Budget

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- Per 2024 H.B. 335 State Grant Process Amendments, if the applicant will receive any additional funding from the State of Utah for the proposed program, they must provide budget details for the additional funding.
- Letter(s) of Support

See **Instructions for Proposals** on page 9 for more details.

Proposal Debriefing

A debriefing meeting will be scheduled with an applicant upon request. The request must be emailed to TRUgrants@ushe.edu within five (5) business days after notification of an unsuccessful proposal is sent to the applicant. Talent Ready Utah will acknowledge receipt of the debriefing request within three (3) business days.

Discussion will be limited to feedback on the requesting applicant's proposal. Comparisons between proposals or evaluations of the other proposals will not be allowed. Debriefing conferences may be conducted by phone or virtually and will be scheduled for a maximum of 30 minutes.

If you have any questions regarding the Engineering and Computer Science Initiative and application process, please email **TRUgrants@ushe.edu.**

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Instructions for Proposals

Formatting

The proposal narrative should not exceed ten pages in length. This includes cover, table of contents, attached graphs, and any appendices to the proposal. It does not include the budget worksheet, budget narrative, or letter(s) of support. A page is 8.5 x 11 inches, with 1-inch margins at the top, bottom, and both sides. Page numbers and an identifier may be within the 1-inch margin. Use one of the following fonts: Arial, Calibri, Helvetica, Palatino Linotype, or Georgia. Applications submitted in any other font will not be accepted. Use a font that is either 12-point or larger or no smaller than 10 pitch (characters per inch). All proposals should be converted and uploaded as a PDF.

Applicants must address each of the following criteria:

Introduction/Need Assessment	(15 points)
Program Management	(25 points)
Implementation	(15 points)
Performance/Outcomes	(20 points)
Budget	(25 points)

The following guidance may assist applicants in addressing each of the selection criteria. The below outline is based on the rubric used to evaluate the proposal:

Introduction/Need Assessment — 15 points

- Provide a detailed description of the proposed program.
- Describe how this program will prepare participants with the skills to meet the future needs of Utah's growing Engineering and Computer Science Technology industries.
- Describe the state/regional workforce needs this program will meet.
- How will this program support the addition of professionals entering the identified high-demand occupation?

Program Management — 25 points

- Describe the partnership between the institution and employer(s) to meet the workforce needs of the targeted high-demand occupation—validated by Letters of Support.
- Outline the proposed curriculum and degree(s) to be offered.
- Include plans for outreach, recruitment, and marketing to prospective students.

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Letter(s) of Support may include:

- How does the partner intend to support or contribute to the proposed program?
- Validation of the skills/credentials this program will offer.
- Commitment of any resources (financial, material, or otherwise).

Implementation — 15 points

- Provide a month/year start-up timeline, including:
    - Curriculum development/approval timelines
    - Hiring timelines for key personnel
    - Participant start and completion milestones
- Describe sustainability plans for long-term program operation and growth.

Performance/Outcomes — 20 points

- Provide 3-year projections for:
    - Student enrollment
    - Completions
    - Job placements
    - Faculty/staff hired
- Describe work-based learning integration.
- Detail methods for tracking performance data and gathering employer feedback.

Budget Worksheet/Narrative — 25 points

Include a **Budget Narrative** that:

- Justifies each line item
- Describes personnel and time commitments
- Identifies and explains matching contributions (in-kind or cash)
- Explains costs requiring prior approval (e.g., subcontractors)

Budget Worksheet

- Provide an outlined budget for the total program cost.
    - Tab 1: Provide the staff resources by title, role type, FTE allocation, and salary proposed and allocated to this budget.
    - Tab 2: An itemized budget detailing the planned use of grant funds, including how the funding will be allocated, tracked, and reported.
    - Tab 3: An overall summary of the budget that includes proposed outcomes and cost per student.

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Sample Comprehensive Annual Plan & Report

Institution: Uintah State University (USU)
Programs Funded Under the Engineering and Computer Science Initiative
Date: September 9, 2025
Prepared for: Talent Ready Utah

Introduction

Uintah State University (USU) has received funding through two award cycles under the Engineering and Computer Science Initiative (ECSI), allowing the university to develop programs that directly address Utah's most urgent workforce needs in cybersecurity, artificial intelligence, embedded systems, and quantum computing. These programs have become key contributors to building Utah's talent pipeline and fostering innovation across the state.

Each award cycle contributed to the development of distinct, yet complementary, academic pathways. This report provides a full overview of enrollment, graduation, employment, industry partnerships, and financial investments made by the university and the state of Utah. It also shares both successes and challenges that have informed ongoing improvements to ensure long-term impact.

Award Cycle I (FY20–FY23) focused on building robust pipelines in:

- **Cybersecurity (CIP Code: 11.1003)**
- **Embedded Systems Engineering (CIP Code: 14.1001)**

Award Cycle II (FY23–Present) built upon that foundation by expanding into:

- **Artificial Intelligence (CIP Code: 11.0102 – Artificial Intelligence and Robotics)**
- **Quantum Computing/Physics Systems (CIP Code: 14.9999 – Engineering, Other)**

Together, these programs have strengthened student outcomes, increased industry partnerships, and enhanced Utah's competitive advantage in tech-centric sectors.

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Enrollment and Growth

Award Cycle I (Cybersecurity & Embedded Systems):
Launched in FY20, Phase I focused on foundational talent pipelines in cybersecurity and embedded systems. Initial enrollments started with 75 students and grew to 135 by the end of FY23. Targeted outreach to high school concurrent enrollment students and regional technical colleges helped establish a pipeline of incoming talent.

Award Cycle II (AI & Quantum Computing):
Building upon early success, Phase II launched in FY23 and rapidly attracted interest due to its focus on emerging technologies. Enrollment increased from 155 in FY24 to a projected 200 in FY26, fueled by industry excitement, national trends, and student demand for cutting-edge credentials.

Year	Program	New Enrollments	Total Enrollment	% Increase
FY21	Phase I	75	200	—
FY22	Phase I	92	225	+12.5%
FY23	Phase I/II	110	260	+15.6%
FY24	Phase II	135	310	+19.2%
FY25	Phase II	155	355	+14.5%

Success: Demand for these programs has consistently exceeded projections, with over 50% of students coming from rural or underrepresented backgrounds.

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Challenge: Faculty capacity remains a limiting factor, particularly in recruiting instructors with quantum computing and AI specialization.

Graduation and Student Success

Graduation rates have improved steadily, particularly due to enhanced advising, tutoring support, and industry-sponsored senior projects.

Year	Graduates	Degrees Conferred	Grad Rate (4-yr / 6-yr)
FY21	35	AS: 15, BS: 20	40% / 64%
FY23	60	AS: 20, BS: 30, MS: 10	45% / 67%
FY25	85	AS: 25, BS: 45, MS: 15	50% / 71%

Success: Graduation rates are now 10% above the state average for STEM programs.

Challenge: Students from rural counties had lower 4-year completion rates, prompting the launch of a mentoring initiative in partnership with community colleges in FY24.

Employment and Workforce Impact

Career placement is a hallmark of both programs. USU maintains employer advisory boards and conducts exit interviews to track placement and identify gaps.

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Year	Placed in Field	Placement Rate	Median Salary
FY21	28	80%	$60,500
FY23	55	91%	$65,400
FY25	75	88%	$69,000

Success: Several graduates have joined national labs (INL, Sandia) and Utah-based firms (L3Harris, Adobe, Vivint).

Challenge: While technical skills are strong, some employers noted a need for enhanced soft skills training, prompting the integration of a required "Engineering Leadership & Communication" course in FY24.

Industry Engagement & Work-Based Learning

The program's success is tied closely to industry partnerships. Since FY20, the number of employer partners has grown from three to fifteen.

Year	Employer Partners	Internships	Curriculum Changes
FY21	3	10	Updated Intro to Robotics
FY23	7	30	Cybersecurity mapped to NICE

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FY25	12	45	Industry-driven AI minor launched

Success: Over 45% of students in the AI/Quantum program have completed paid internships.

Challenge: Employer feedback revealed gaps in knowledge of emerging compliance standards (e.g., NIST, ISO), now integrated into capstone evaluations.

Research, Commercialization, and Innovation

The ECSI investments have also expanded USU's research output and entrepreneurial activity.

Year	Patents	Publications	Startups
FY21	0	4	0
FY23	2	8	1
FY25	3	10	3

Success: In FY25, a student-led startup spun off from a quantum sensor project received a $150K NSF i-Corps grant.

Challenge: Commercialization support is still developing; USU is now partnering with the Utah Innovation Center to offer technical assistance for faculty IP development.

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Faculty and Staffing

Year	Faculty/Staff Hired	Vacancies
FY21	2 Faculty (Cyber, Embedded)	—
FY23	2 Faculty, 1 Lab Tech	1 Open Position (AI)
FY25	2 Faculty (Quantum, AI)	0

Success: Faculty hired through the grant have brought in over $600K in research funding.

Challenge: Recruiting diverse faculty remains difficult. USU has committed to faculty pipelines with HBCUs and Hispanic-serving institutions beginning FY26.

Budget Summary & Institutional Match

The tables below outline funding received from Talent Ready Utah during each award cycle, alongside USU's institutional match. While the match is not provided on a line-by-line basis, the university certifies that the total match commitment meets or exceeds the required one-to-one contribution, with all funds aligned to the objectives outlined in each award.

Award Cycle I (FY20–FY23)

Program Focus: Cybersecurity (11.1003), Embedded Systems (14.1001)

Budget Category	State Funds	Institutional Match	Notes

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Salaries & Benefits	$600,000	$680,000	Includes 2 new tenure-track faculty, lab tech support, advising
Equipment (Year One Only)	$200,000	$150,000	Equipment for Embedded Systems & Cybersecurity labs
Curriculum Development	$75,000	$50,000	Faculty stipends, AI curriculum development pilot
Marketing & Outreach	$30,000	$25,000	Joint recruitment with Career Services
Student Support Services	$45,000	$45,000	New peer tutoring, advising tools
Total	**$950,000**	**$950,000**	**Match Achieved ✅**

Award Cycle II (FY23–Present)

Program Focus: Applied AI (11.0102), Quantum Computing (14.9999

Budget Category	**State Funds**	**Institutional Match**	**Notes**
Salaries & Benefits	$450,000	$625,000	Faculty hires in Quantum Systems, AI Ethics, industry liaison

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Equipment (Year One Only)	$175,000	$100,000	Quantum computing kits, FPGA labs
Curriculum Development	$80,000	$75,000	Capstone redesign, AI minor creation, industry advisory time
Marketing & Outreach	$30,000	$0*	*Covered through broader university STEM outreach office
Student Support Services	$40,000	$100,000	AI career pathway mentoring, graduate assistantships
Total	**$775,000**	**$900,000**	**Match Exceeded ✅**

Combined & Continued Match Summary (FY20–FY25)

Category	**Total State Funds**	**Total Institutional Match**
Salaries & Benefits	$1,050,000	$1,325,000
Equipment	$375,000	$250,000
Curriculum Development	$155,000	$125,000

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Marketing & Outreach	$60,000	$25,000
Student Support Services	$85,000	$150,000
TOTAL	**$1,725,000**	**$1,875,000**

Match Status: ✅ *USU has exceeded the required one-to-one institutional match, as outlined under Utah Code §53B-6-105.*

- **Match Commentary:** The institutional match for Award Cycle II has included funding from the Provost's Office for new faculty lines, matching contributions from externally funded research programs, and co-investment in lab infrastructure.

Conclusion

Over the past five years, Uintah State University's continued participation in the Engineering and Computer Science Initiative has produced meaningful outcomes for students, faculty, and industry partners across Utah. With support from two distinct award cycles, USU has expanded its academic offerings in key areas such as cybersecurity, embedded systems, artificial intelligence, and quantum computing—programs that align directly with high-demand occupations and the state's economic growth sectors.

The university has consistently met or exceeded its enrollment, graduation, and job placement goals while demonstrating strong performance in industry collaboration, curriculum innovation, and research activity. Notably, USU has achieved and surpassed its required institutional match, reflecting a deep institutional commitment to sustaining and scaling these programs beyond the funding period.

Challenges such as faculty recruitment in emerging disciplines and access for rural students have provided opportunities to implement targeted solutions, including new advising strategies, flexible curriculum formats, and dedicated career pathways. These efforts underscore the

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university's commitment to continuous improvement and responsiveness to workforce needs.

USU is proud to be a partner in advancing Utah's talent pipeline and remains committed to delivering high-quality, industry-aligned engineering and computer science education that strengthens the state's competitiveness and prosperity. We thank the Utah Legislature and Talent Ready Utah for their support and look forward to future collaboration.

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