

## **Educational Mini-Grant for Promoting Entrepreneurial Mindset in Undergraduate Engineering Education at Missouri S&T**

Funding for this initiative is provided by the College of Engineering and Computing and the Kern Entrepreneurial Engineering Network (KEEN).

### **Purpose:**

The educational mini-grant program aims to foster an entrepreneurial mindset among undergraduate engineering students at Missouri S&T by supporting innovative projects that integrate the KEEN principles of curiosity, connections, and value creation into the curriculum and learning experiences. The aim of this seed funding initiative is to help instructors to develop new and/or implement existing entrepreneurial mindset (EM) modules into course curriculum and learning outcomes.

### **Eligibility:**

Full-time faculty and staff with teaching duties related to undergraduate engineering students in all colleges and disciplines at Missouri S&T may apply. Team projects across various courses and/or disciplines are encouraged. One example of this might be working with other instructors of the same course or related courses on EM strategies. Another example might be working with multiple instructors on a sequence of courses where one is a pre-requisite for another. It is also encouraged to include participation from CAFE as part of the project to ensure alignment with KEEN principles and strategies for fostering an entrepreneurial mindset. Sarah Lewis is the KEEN point of contact in CAFE ([sarahlewis@mst.edu](mailto:sarahlewis@mst.edu)).

### **Funding:**

There are three tiers for seed funding awards.

- Tier 1 awards for \$1000 are for projects that incorporate an existing KEEN activity/card in the classroom to enhance the course curriculum. You can find ideas for activities on the engineering unleashed website here: <https://engineeringunleashed.com/>.
- Tier 2 awards for \$2000 will be for creating new EM content and implementing it in a course.
- Tier 3 awards for \$5000 will be for a comprehensive redesign of an existing course to align learning objectives with EM principles or creating a coherent sequence of connected EM activities across multiple courses to provide continuous and immersive training in EM principles throughout the curriculum.

Funds may cover summer support, materials and supplies, student support, and/or release time. Any personnel salary and wages must include appropriate fringe benefits. Successful awardees may apply for additional funds (up to \$2500, covered by CEC) to present their research outcomes at the KEEN national conference upon project completion. Securing potential matching funds from another organization or industry partner is also encouraged but not required.

## **Recognition and Opportunities:**

Upon successful completion of the project, awardees will:

- Receive a KEEN community pin.
- Be highlighted on the KEEN webpage hosted by CAFE and recognized in a news release.
- Become eligible for internal funding to attend a KEEN professional development workshop.
- Serve as KEEN advisors for upcoming projects.

## **Application process:**

Full proposals are due on May 1, 2024, and should be submitted to the KEEN address ([mstkeen@mst.edu](mailto:mstkeen@mst.edu)). Winners will be announced by May 15, 2024. We anticipate that the planning phase of projects will begin in the summer and EM activities and curriculum changes will be implemented in fall 2024 for Tier 1 and 2 proposals. Tier 3 proposals can be implemented by the end of the spring 2025 semester, allowing for one academic cycle. Proposals should detail how the project integrates EM into engineering education and include the following as a single PDF document in the order presented:

- Cover sheet with project title, PI and co-PI names if applicable, department, and course information (this should include an estimate of how many students will be impacted).
- A full description of the project including a timeline, learning outcomes, assessment plans, and the longer-term sustainability of the work (< 5 pages). Note that CAFE can be particularly helpful with assessment plans.
- Dissemination strategy for sharing outcomes within Missouri S&T and the engineering education community (< 1 page).
- A brief (1 page) letter of support from department chair.
- A 250-word biosketch for each PI and co-PI, highlighting their teaching experiences.

## **Expectations:**

Recipients are expected to:

- Execute the proposal and complete it by the end of the fall 2024 (Tier 1 and 2) or spring 2025 (Tier 3) semester.
- Submit a final report within two months after the end of the completion semester (details for this report will be provided later).
- Participate in the KEEN community and share updates, challenges faced, and lessons learned during and after the project.
- Share important research outcomes via publications in engineering education journals and presentations at conferences.
- Tier 2 awardees are expected to submit a CARD to the engineering unleashed website by May 1, 2025. Tier 3 awardees should also consider submitting one or more cards upon completion of their project(s).

**Review procedure and Committee:**

Each proposal will be evaluated for alignment with the KEEN and EM principles, feasibility, and potential impact (potential importance and the number of students impacted). Committee members will independently assess and score of the proposal's merits based on developed criteria. The committee panel then evaluates collective assessments and selects grant recipients. The review committee comprises:

- Dean of the College of Engineering and Computing or their representative.
- An instructional designer or CAFE representative.
- Two or three faculty members with strong teaching backgrounds