

The STEM CENTER at SHSU Teaching Enhancement Grants

The goal of the STEM CENTER Teaching Enhancement Grants is to incentivize faculty of the College of Science and Engineering Technology to improve their courses and related instructional activities, particularly for introductory courses taken by STEM majors. For Spring 2022 implementation, proposals are solicited in three programs:

STEM Course Enhancement: These awards will support enhancements to positively impact student engagement and build learning communities within introductory STEM Courses. Successful proposals will focus on increasing student engagement in an introductory (1- or 2000 level) STEM Course.

STEM Center – Active Learning Space: These awards will support projects that directly utilize the available active learning rooms in Farrington 213 and 217 (28 maximum capacity in each room) to innovate their teaching practices in any STEM course offering. Awarded projects will be assigned to one or both F213 and F217 for implementing active learning pedagogy.

Scholarship of Teaching and Learning: These awards will support educational research projects being conducted within STEM courses by the COSET faculty.

These grants are funded by STEM Center NSF Grant No. [1725674](#) and are included in the SHSU Quality Enhancement Plan. Applications can be submitted to STEMCenter@shsu.edu.

Timeline:

Proposal Due Date: **November 15, 2021**

Announcement of Awards: **December 16, 2021**

Implementation Period: **Spring 2022**

Supplemental Funding Application due: **May 15, 2022**

Final Report due: **September 16, 2022**

Application requirements:

Any member of the COSET faculty or staff engaged in teaching a STEM course may apply. Applicants are allowed to submit proposals for multiple grants.

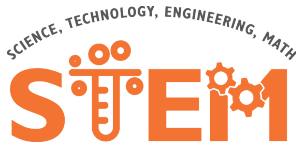
Expectations:

Proposals will be funded up to a maximum of \$2,000, of which **at most** \$1,500 can be requested for faculty stipends. In the implementation phase, awardees will carry out the proposal plans and meet occasionally with the STEM Center leadership and other grant recipients. Note that stipend funds will not be released until after the final report of the project is received and approved.

Supplemental Funding:

After successful implementation of the proposed project, awardees will be invited to apply for up to \$1,000 supplemental funding for the dissemination of the project and results beyond SHSU.

Materials: STEM Center has the right to request purchased materials after the funding period.



STEM Course Enhancement Grant

The purpose of course enhancement grants is to promote student engagement and to build learning communities within the College of Science and Engineering Technology. We welcome proposals that utilize either remote or face-to-face active learning strategies. Funds may be used to:

- purchase durable equipment, licensing, or software
- create reusable course materials
- develop or implement innovative teaching technologies
- engage training or other development for instructors
- support faculty, staff or graduate student time during course redesign.

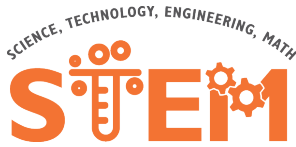
Applicants must demonstrate how the investment of grant funding will result in permanent and sustainable changes to courses or curricula. The application should specifically note how the innovation incorporates active learning and/or community building strategies. However, applicants are not expected to engage in formal experiments or data collection to demonstrate the effectiveness of the new methods or equipment.

Grants are to be implemented during the Spring 2022 semester. Proposals will be funded up to a maximum of \$2,000, of which **at most** \$1,500 can be requested for faculty stipends. A thoroughly examined and detailed budget must be included in the proposal. Allowable budgeted items may include graduate assistant support, materials and supplies, equipment, and discretionary funds. Budget proposals must include all applicable shipping, handling, and other incidental costs. **All funded projects must submit a final report of activities.**

These awards will support enhancements in teaching and learning practices focused on introductory (1- and 2000 level) STEM Courses. All instructors of introductory courses in STEM fields are eligible to apply.

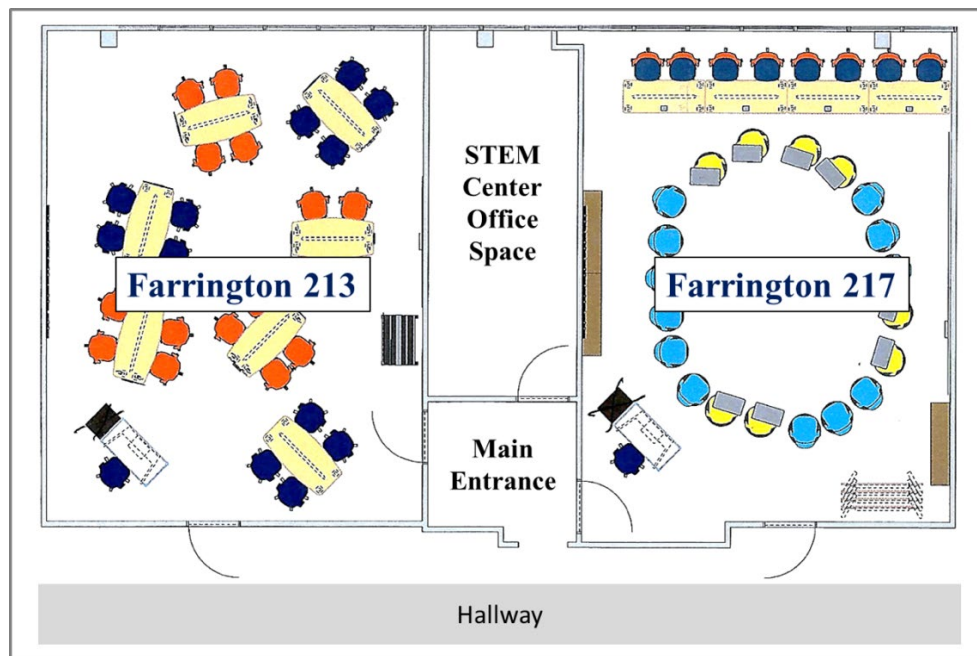
Selection Criteria

Course enhancement grants will be evaluated by members of the STEM Center's organizational team based on the quality of the proposal, potential for positive impact of the enhancement, and feasibility of the project given the timeline and budget.



STEM Center Active Learning Space Grant

These awards will support projects that directly utilize the available STEM Center active learning rooms in Farrington 213 and 217 to innovate their teaching practices. Proposals can request one or both rooms, supporting a maximum capacity of 28 in each room). Ample whiteboard space as well as individual student whiteboards can allow for student collaboration. Both rooms are equipped with projectors.



Schematic of the STEM Center Active Learning Space.

Funds may be used to:

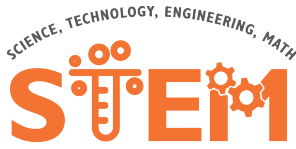
- explore and design novel activities to implement within the active learning space.
- purchase equipment to foster meaningful student interactions around classroom topics.

Applicants must show how grant funds will lead to the utilization of the active learning space and evidence of impact on learning outcomes. However, applicants are not expected to engage in formal experiments or data collection to demonstrate the effectiveness of the new methods or equipment. Faculty teaching any lower or upper-division STEM courses can apply.

Grants are to be implemented during the Spring 2022 semester. Proposals will be funded up to a maximum of \$2,000, of which **at most** \$1,500 can be requested for faculty stipends. A thoroughly examined budget must be included in the proposal, including all applicable shipping, handling, and incidental costs. Allowable budgeted items may include graduate assistant support, materials and supplies, equipment, and discretionary funds. **All funded projects must submit a final report of activities.**

Selection Criteria

Active learning space grants will be evaluated by members of the STEM Center's organizational team based on the quality of the proposal, description of how the rooms will be used, and the feasibility of the project given the timeline and budget.



STEM Center Scholarship of Teaching and Learning

These awards provide recipients with funding to develop, evaluate, and make public unique instructional approaches that show potential to improve and progress the educational experience of STEM students.

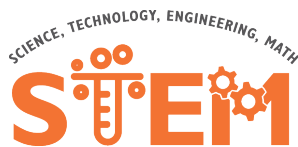
Funds may be used to experiment with (but are not limited to):

- novel instructional approaches and tools that are intended to improve student learning experiences for STEM students or University students in courses instructed by STEM faculty.
- modern initiatives such as community engagement, socio-academic integration strategies, team-based learning, and others, that promote science and engineering fields to increase retention in the COSET majors.
- Technology-enhanced experiential learning activities.

Grants are to be implemented during the Spring 2022 semester. Proposals will be funded up to a maximum of \$2,000, of which **at most** \$1,500 can be requested for faculty stipends. A thoroughly examined budget must be included in the proposal, including all applicable shipping, handlings, and other incidental costs. Allowable budgeted items may include graduate assistant support, materials and supplies, equipment, travel support, and discretionary funds. **All funded projects must submit a final report of activities.**

Selection Criteria

Scholarship of teaching and learning grants will be evaluated by members of the STEM Center's organizational team based on the quality of the experimental design, potential for positive impact of the project, and feasibility of the project given the timeline and budget. Priority will be given to projects that clearly aim to publish and/or disseminate results of the research to interested audiences in STEM educational fields.



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Application Process:

Submit a proposal as a single electronic file (i.e., pdf). The proposal should include the following information:

1. Title. Please format the title of the proposal to include the category of the grant program [enhancement, active learning space, or scholarship of teaching and learning]. For example, *“Active Learning Space: Fostering global awareness of changes in atmospheric chemistry via structured roleplay forums.”*
2. PI name, Job Title, and SHSU email.
3. List any current and pending funding related to this project.
4. Budget. Total amount requested, up to a maximum of \$2,000, of which **at most** \$1,500 can be requested for faculty stipends. This budget must include all applicable shipping, handling, and other incidental costs.
5. STEM Courses targeted in the proposal. Please list the course and section involved in the proposal and its expected enrollment in Spring 2022.
6. Project narrative. This section of the proposal has a 2-page limit and should include:
 - Executive Summary (250 words)
 - Project Narrative
 - ◆ Rationale: Provide a clear rationale for the project. If applicable, explain how the project draws from sound pedagogical practices or current learning theory.
 - ◆ Materials and Methods
 - ◆ Expected Results and Dissemination Plan (if any)
 - Budget and Brief Budget Justification

Post Implementation Reporting Process:

All awardees must submit a final project report to the STEM Center, as well as submitting any assessment data to the QEP.

NOTE: Faculty stipends will be processed after receipt and review of the final report.

The project report will include:

- A copy of the original proposal
- A summary explaining which elements of the proposal were:
 - ◆ Completed according to plan.
 - ◆ Modified from the original proposal.
- Materials for one (or more) student learning activities sponsored by the grant, including
 - ◆ Student instructions.
 - ◆ Instructor’s guide.
 - ◆ Assessment tool.
 - ◆ Assessment results.
- Concluding discussion reflecting on results, lessons learned, dissemination plans, and directions for future development.
- An artifact or deliverable (photo, movie, sample student work, etc.) that can be featured on the STEM Center website and included in STEM Center promotional materials and reports to the funding agency.