

Request for Proposals

Course Redesign Initiative to Support Teaching for Engaged Learning (CRISTEL)
McCormick Teaching Excellence Institute

Proposal deadline: March 4, 2024. Submission of a short letter of intent by February 15th to verify that the proposed course and pedagogy are eligible is strongly encouraged.

Synopsis: The McCormick Teaching Excellence Institute (MTEI) requests proposals for the Course Redesign Initiative to Support Teaching for Engaged Learning (CRISTEL) program. CRISTEL provides funding of up to \$45,000 over a period of two years to redesign core engineering courses. Redesign projects must significantly increase the use of active learning or other research-based pedagogies that improve student engagement and learning.

Eligibility: Only core undergraduate courses that are degree requirements for a major in the College of Engineering are eligible. Preference is given to ENGRD and ENGRI courses; large-enrollment courses; courses at the first-year, sophomore, and junior levels; and/or courses required by the college of all majors. New or redesigned ENGRI courses that introduce students to more than one major are especially encouraged. Graduate courses, elective courses, and senior design courses are not eligible.

Program Description

The goal of CRISTEL is to support redesign of critical courses in the undergraduate program to improve student learning, engagement, and overall experience. Redesign projects must be based on research-informed pedagogies and best practices. Examples include active learning, problem-based learning, case study discussions, groupwork projects, a flipped or partially flipped class model, or combinations of these and other approaches. Use of the pedagogy needs to be embedded throughout a course, not isolated to a single unit. Proposals based solely on passive learning, such as straight lecture, will not be considered.

Redesign projects must assess the impact on student learning. As part of the assessment, a redesigned course must be taught at least twice within the two-year project period. Instructors will gather feedback from the first offering, refine the redesign based on feedback, and teach the course a second time with the revised redesign. Awardees will submit a preliminary report to MTEI after the first offering of the redesigned course, and a final report after the second offering. The reports will present a summary of the changes made to the course, the content created for the course, and an assessment of the impact on student learning.

At the conclusion of a redesign project, awardees shall present the results of their redesign project at an MTEI-sponsored event, or at a departmental event such as a faculty meeting or seminar. Broad dissemination of results in a published paper or at a workshop is encouraged.

Redesign projects must be sustainable after the grant ends. A measure of success will be that the offering department accepts the redesign as the “new normal” for the course.

MTEI is available to consult with awardees at all stages of the redesign project, including planning, implementation, and assessment. Four meetings will be required for funded projects: (1) an initial meeting to discuss the plans for the redesigned course, the timeline, and what assessment data will be gathered; (2) a status meeting partway through the first offering of the course to share how the redesign is working,

and to discuss any issues that have developed along with potential solutions; (3) a status meeting before the second offering of the course to discuss any revisions that might be needed, and to review preliminary assessment data; and (4) a final meeting before the final report is submitted.

ALI and CRISTEL

Cornell University's Active Learning Initiative (ALI) projects support departments redesigning several courses, whereas CRISTEL grants support a single, critical engineering course. CRISTEL proposals that leverage lessons learned from an ALI project are welcome.

Budgetary Information

A proposal may request funding up to \$45,000 over two years. The number of grants awarded will depend on the quality of proposals and their proposed budgets. Funding may be used for many purposes, including:

- Summer salary.
- Funding TAs or student workers during a course offering or during the summer.
- Attendance at a nationally-recognized teaching workshop, such as the National Effective Teaching Institute (NETI).
- Purchasing supplies or equipment, provided that the course will be sustainable after the grant ends.
- Teaching relief, if allowed by the department(s) involved.

Proposal Requirements

Proposals should be 5–6 pages, plus a budget page. A proposal should provide the following information:

- A description of the current course (or the new course to be created).
- An explanation of the active learning or other research-based pedagogy being proposed, and a rationale for its inclusion in the specific course being redesigned.
- A description of the redesigned course highlighting proposed changes.
- A specification of what course materials will be created using the grant funding.
- A plan to assess the impact of the redesign project on student learning.
- A timeline for the redesign project. The timeline should identify when new course materials will be created, which two semesters the course will be offered, the faculty who will teach the course in each offering, and when the revision work will be accomplished between the two offerings.
- The venue at which the awardee plans to present the redesign project results.

Proposals must be accompanied by a letter of support by the department chair and DUS. That letter needs to commit to continuing successful aspects of the redesign project in future offerings of the course after the grant ends. Those offerings may be taught by different instructors.

If funding is requested for TAs, the proposal must detail the specific deliverables that will be assigned to TAs. Those deliverables could include content creation for lectures, discussion sections, or labs; development of assessments; or specific extra teaching duties that will be necessary during the two-year period and sustainable by the department after the grant ends. An educational plan for the TAs also needs to be identified. That plan should explain how the TAs will become proficient in the pedagogy being

implemented in the redesign project. TAs are encouraged to take ENGRG 6780 Teaching Seminar or CHEME 6950 Engineering Education Teaching and Research Methods to enhance their understanding and effort in the course redesign, or to participate in Engineering Learning Initiative's Interactive Learning Collaborative.

Program Timeline

- Letter of intent due: February 15, 2024. A letter of intent is strongly encouraged. Faculty are encouraged to consult with Kathy Dimiduk as they prepare proposals.
- Proposals due: March 4, 2024.
- Notification of awards: early April 2024.
- Project start date: June 1, 2024 or later.
- First offering of redesigned course: Fall 2024 or Spring 2025.
- Second, revised offering of redesigned course: Spring 2025, Fall 2025, or Spring 2026.

Required Reporting

- Preliminary report due: one month after grades due for first offering of course.
- Final report due: one month after grades due for second offering of course.

Required Meetings

- A planning meeting prior to the first offering of the redesigned course. This meeting should be held after the general plan for the redesign is complete, but before detailed content generation has begun.
- A status report meeting partway through the first offering of the redesigned course. This meeting should be held by the end of the seventh week of the semester.
- A status report meeting before the second offering of the redesigned course. This meeting should be held after preliminary assessment data have been gathered, and before detailed planning of revisions to the second offering has begun.
- A final meeting after the second offering of the redesigned course. This meeting should be held after all assessment data have been gathered, and before the final report is submitted.
- MTEI welcomes additional meetings that would be useful to awardees.

Submission

Email your materials to Kathy Dimiduk, klc78@cornell.edu.