2019 Leonhard Center Request for Proposals

Intent to submit deadline: November 1
Submission deadline: November 22

The Leonhard Center is pleased to request proposals to support enhancements of undergraduate and graduate education in the College of Engineering. We will be accepting proposals in two categories: Limited Scope projects for less than $10,000, which may be submitted by individual faculty or staff members, and Full Proposals, which must involve teams of faculty and/or staff. There are three major themes of interest this year, although all proposals are welcome.

**Theme 1:** Integration of problem-based learning into undergraduate programs through use of existing facilities such as the Learning Factory and Maker Spaces, or future facilities in West 2.¹ A major goal of this theme is to develop pilot educational experiences for our students that take advantage of West 2. With these projects already developed, we can rapidly accelerate the use of curricular and co-curricular project-based learning throughout our engineering programs, once West 2 comes online. Example projects could be substituting a novel open-ended design project for an existing lab exercise or capitalizing on the colocation of expertise and equipment from multiple disciplines to create novel interdisciplinary design experiences for our students.

**Theme 2:** Use of badging² in curricular and co-curricular experiences to enhance undergraduate students’ professional skills and to build a sense of community in the College. Proposals may include creation of online instruction/assessment as part of the badging process. Topics of interest are diversity and its impact in engineering, the impact of engineering and computer science on the world, and team skills especially those related to inclusive teams.

**Theme 3:** Increasing engagement and supporting success of first and second-year engineering students in curricular or co-curricular settings.

You may contact the Director of the Leonhard Center to discuss your project concept prior to preparing a proposal. A discussion with the Director is strongly encouraged if you are planning to submit a full proposal or if your project concept does not fall into one of the three themes of this RFP.

If you intend to submit a proposal, please notify the Director via email (tal2@psu.edu) by November 1. Please indicate the topic of your intended submission and the type of proposal – Limited Scope (less than $10K) or Full Proposal (more than $10K). Guidelines for proposals and review criteria are provided in the attachments to this document.

Total funding available is $250K. These funds are generated by endowment income and are not subject to indirect costs.

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¹ West 2 will be a signature Engineering building at Penn State providing space, equipment, and educational resources for problem-based learning from Cornerstone, through Capstone. Located on West Campus, it will be a HUB of activity for making and fabrication for students from first to senior years. Its facilities include build rooms, metal, wood,
electronic shops, paint rooms, 3D printing facilities, and open concept innovation studios with space for team-based design. The building is being designed by Payette architects, who are experts in the development of innovative educational engineering spaces, with extensive input from faculty from all COE departments. Thus, the newly created space should enable a wide range of student projects aimed at enhancing the engineering education experience for our students. The completion date is around 2023.

2 Topics in Theme 2 will be integrated into digital badging infrastructure being built within the College of Engineering. Digital Badges will be awarded to students under the Open Badges 2.0 standard, which will allow them to keep and share the badges beyond their time at Penn State. Badges also include meta-data viewable by employers including earning criteria and evidence/assignments submitted during the completion of the badge. The Office for Digital Learning will provide the technology and support to develop your digital badge(s). Individual badges and clusters of badges forming a “Pathway to Impact” are both supported by the badging infrastructure.
LIMITED SCOPE PROJECTS: FUNDING < $10K

- Two pages plus budget
- May be submitted by individual faculty or staff members, but submissions by a team will increase chances of funding
- All recipients of Limited Scope Awards are expected to participate in a project kick-off meeting with the Leonhard Center

Submit as a single pdf file to Deb King (dry1@engr.psu.edu) by November 22nd

- Proposal should include the following:
  - Project Goals and/or Learning Objectives
  - Project Description
  - Expected Impact if scaled
    - Include the numbers of students, courses and/or faculty affected
  - Departmental Support
  - Assessment Plan Linked to Goals/Learning Objectives
  - Project Timeline
  - Justification of budget request, including estimate of faculty and student time

Budget

- Project start date should be Jan 1, 2019 or later
- Fringe benefits must be included for salaries, wages, stipends, etc.
- Indirect costs should not be included

<table>
<thead>
<tr>
<th>Allowable expenses:</th>
<th>Non-allowable expenses:</th>
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<tbody>
<tr>
<td>- Support for faculty and students</td>
<td>- Facilities construction or improvements</td>
</tr>
<tr>
<td>- Travel support to execute project or to present results of project</td>
<td>- Equipment</td>
</tr>
<tr>
<td>- Materials &amp; supplies</td>
<td>- Software/IT-based services</td>
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Evaluation Criteria

- Quality of project concept
- Alignment with themes for RFP
- Potential impact of the project including impact on equity and inclusion
- Potential for scale-up to larger impact
- Alignment between project scope and budget
- Type and level of support of project by Department
FULL PROPOSALS: FUNDING >$10K

- Five pages plus budget
- Must involve at least two faculty members; lead faculty member must be a CoE faculty member at University Park
- All recipients of Full Proposal Awards are expected to participate in a project kick-off meeting with Leonhard Center Staff at which we will discuss and refine the project plan and assessment plan
- Proposal should include the following:
  - Project Goals and/or Learning Objectives
  - Brief Summary of Related Literature
  - Project Description
  - A description of how the project links to CoE and Department Strategic Plans
  - Conceptual Assessment Plan Linked to Goals/Learning Objectives
    - Detailed assessment design will be done for funded projects in collaboration with Leonhard Center staff.
  - Expected Impact in Department and College
    - Include the numbers of students, courses and/or faculty affected
  - Plan for sustaining innovation after startup period
  - Departmental Support (For more information see evaluation criteria)
  - Project Timeline
  - Justification of budget request

- Proposal must be submitted as a single pdf file to Deb King (dry1@engr.psu.edu) by November 22nd

Budget

- Must be broken down by Fiscal Year
- Project start date should be June 1, 2019 or later
- Fringe benefits must be included for salaries, wages, stipends, etc.
- Indirect costs should not be included

Allowable expenses:
- Support for faculty and students
- Travel support to execute project or to present results of project
- Materials & supplies

Non-allowable expenses:
- Equipment
- Facilities construction or improvements
- Software/IT-based services

Evaluation Criteria

- Quality of project concept and plan
- Expected impact of the project – including number of students, faculty, and/or courses involved
- Degree of alignment of the project goals with College and Department Strategic Plans, especially with respect to equity and inclusion
- Alignment between project scope and budget
- Plan for sustaining the innovation after Leonhard Center funding ends
- Type and level of support of project by Department
  - Full Proposals must have a support letter from the Department Head (not counted against 5-page limit)
  - Financial contributions from a Department toward the cost of a project will increase likelihood of funding