The Leonhard Center is pleased to issue a request for departmental proposals to support enhancements of education in the College of Engineering. In addition to these proposals, the Center will be accepting applications from individual faculty members for projects to enhance teaching and learning in their courses.

Projects of particular interest this year include:

- New or enhanced First-Year Seminars that align with the College’s focus on Engineering and Humanity
- Enhancements of large enrollment, second-year courses to increase student engagement and learning using methods such as classroom flip, project-based learning or community engagement.
- Enhancements of required courses in a major that increase students’ understanding of the relationships between Engineering and Humanity.
- Enhancements of required courses in a major to enhance students’ abilities related to inclusive collaboration, engineering ethics, global readiness, innovation or leadership.

All those who are considering submission of a proposal or application are encouraged to contact the Director of the Leonhard Center to discuss their project concept. Discussion with the Director is strongly encouraged if your project concept does not fall into one of the areas list above.

If you intend to submit a proposal or application, please notify Tom Litzinger (tal2@psu.edu) via email by April 2. Please indicate the topic of your intended submission. If a large number of intents-to-submit are received, a down-select process will be initiated.

<table>
<thead>
<tr>
<th></th>
<th>Submission</th>
<th>Number of Awards</th>
<th>Funding</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental/Team Projects</td>
<td>Proposal</td>
<td>2 to 4</td>
<td>Up to $60,000 per year</td>
<td>Up to two years</td>
</tr>
<tr>
<td>Individual Faculty Projects</td>
<td>Application</td>
<td>Up to 10</td>
<td>One week of summer salary</td>
<td>One year</td>
</tr>
</tbody>
</table>

Note: Faculty members who submit individual projects are committing to complete ALL of the requirements for the Engineering Education Innovation Academy discussed below. The initial required element is a two-day workshop to be held on June 5 and 7.
Department-level Projects
Projects must have at least two faculty members involved and have strong endorsement from the Department Head. The Principal Investigator on the project must be an engineering faculty member located at University Park. Projects may involve undergraduate or graduate education. The examples of project funded in 2016 and 2017 are listed below.

<table>
<thead>
<tr>
<th>Examples of Team/Department-level Projects Funded in 2016 and 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Integration of the World-Class Engineer into the EDSGN 100 Curriculum</td>
</tr>
<tr>
<td>– Developing a Holistic Capstone Design Experience in CEE</td>
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<tr>
<td>– Product-based Learning: Bundling Goods and Services</td>
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<tr>
<td>– Scaling for the Future: Development of a Sustainable Model for Teaching MATLAB Programming to STEM Students</td>
</tr>
</tbody>
</table>

Individual Faculty Projects – Engineering Education Innovation Academy
Faculty members who are selected for individual awards will participate in the 2018 Engineering Education Innovation Academy. The Academy offers the opportunity to develop enhancements of engineering courses in close collaboration with faculty of the Leonhard Center.

The Academy will begin with a two-day, interactive workshop to introduce faculty members to best practices in instructional design, fundamentals of classroom assessment, and best practices in engineering education based on research. The interactive workshop will provide a foundation to ensure that the enhancements being implemented are well grounded in best practices in design and assessment, and that they are based on appropriate literature. The workshop will be held on June 5 and 7.

Following the workshop, faculty members will continue work to complete their education and assessment plans. They will meet with Leonhard Center faculty in August to share their plans and to receive feedback. It is an expectation of the program that the plans will be implemented during the 18/19 academic year and that results of the assessment will be shared with the Leonhard Center.

Faculty members who are selected and who commit to completing all elements of the Academy will receive one week of summer salary. Upon completion of the Academy, they will also become eligible for an Excellence in Engineering Education Award from the Leonhard Center, which includes a $5000 award.
PROPOSAL GUIDELINES FOR DEPARTMENTAL PROJECTS

Minimum team size is three faculty members. PI must be an engineering faculty member located at University Park.

- Five pages plus budget
- Submit as a single pdf file to Deb King (dry1@engr.psu.edu)
- 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 and to the attributes of a World-Class Engineer
  - 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

BUDGET

- Must be broken down by Fiscal Year
- Project start date should be June 1, 2018 or later
- Fringe benefits must be included for salaries, wages, stipends, etc.
- Indirect costs should not be included

Allowable expenses:  Non-allowable expenses:
- Support for faculty and students  - Equipment
- Travel support to execute project or to present results of project  - Facilities construction or improvements
- Materials & supplies  - 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 and with the attributes of a World-Class Engineer
- Alignment between project plan and budget
- Plan for sustaining innovation
- Type and level of support of project by Department
  - How strong is support from Head? Is Department investing in the project?
APPLICATION GUIDELINES FOR Individual Faculty Grants/Engineering Education Innovation Academy

Eligibility: Faculty member in College of Engineering. Project must be conducted on University Park Campus.

- Maximum of two pages
- Submit as a pdf file to Deb King (dry1@engr.psu.edu)
- Proposal should include the following:
  - Brief summary of why the project is being proposed
  - Project description with learning objectives
  - Expected impact (include number of students affected per year)
  - Statement of support from the Department Head (can be copy of an email)
- Faculty members who are selected for individual projects and who commit to completing all elements of the Academy will receive one week of summer support.

EVALUATION CRITERIA

- Quality of project concept
- Degree of alignment of the project goals with Department and College Strategic Plans and with the attributes of a World-Class Engineer
- Expected impact of the project