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MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See <http://www.mtsu.edu/sqa/cleanenergy.shtml> for funding guidelines. Save completed form and email to cee@mtsu.edu or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request	John Rozell
Department/Office	VET Room 120
Phone # (Office)	615-904-8568
MTSU Box #	19
Phone # (Cell)	615-476-3932
E-mail	john.rozell@mtsu.edu
Submittal Date	2/8/19

2. Project Categories (Select One)	
Select the category that best describes the project.	
<input checked="" type="checkbox"/>	Energy Conservation/Efficiency
<input type="checkbox"/>	Sustainable Design
<input type="checkbox"/>	Alternative Fuels
<input type="checkbox"/>	Other
<input type="checkbox"/>	Renewable Energy

3. Project Information	
a. Please provide a brief descriptive title for the project.	
b. The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.	
c. List the source of project cost estimates.	
d. Provide a brief explanation in response to question regarding previous funding.	
3a. Project Title	LED Lighting Retrofit for Mechatronics Lab 128 in DSB
3b. Project Cost Estimate	\$4300
3c. Source of Estimate	Previous similar projects, online calculator.
3d. If previous funding from this source was awarded, explain how this request differs?	NA

4. Project Description

(Completed in as much detail as possible.)

- a. The scope of the work to be accomplished is a detailed description of project activities.
- b. The benefit statement describes the advantages of the project as relates to the selected project category.
- c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
- d. List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.
- e. Provide specific information on anticipated student involvement or benefit.
- f. Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.
- g. Provide any additional comments or information that may be pertinent to approval of the project funding request.

4a. Scope: Work to be accomplished

Retrofit 15 existing 2-tube fluorescent fixtures in the 128 lab with Philips Recessed EvoKit LED fixtures. Retrofit 3 1-tube fixtures in the 128 closet area with direct replacement LED tubes.

4b. Scope: Benefit Statement

LED fixtures will offer reduced energy consumption, longer operational life reducing maintenance costs (T-8 fluorescent lamps life span is on average 12000 hours/2 years while the EvoKit retrofit fixtures are rated for 70000 hours.

The most visible aspect will be improved, brighter lighting in the lab to provide a better learning environment for Mechatronics engineering students to complete their senior capstone projects.

4. Project Description (continued)
4c. Location of Project (Building, etc.) Room 128, Davis Science Building
4d. Participants and Roles John Rozell, Project coordination with Facilities MTSU Facilities management: Purchasing and installation
4e. Student participation and/or student benefit Brighter lighting in Mechatronics project lab to facilitate a better work environment.
4f. Future Operating and/or Maintenance Requirements Reduced maintenance as compared with standard T-8 lamps. Typical lifespan for EvoKit LED fixtures is 6 years.
4g. Additional Comments or Information Pertinent to the Proposed Project A similar retrofit project was completed in the VET Room 118 Mechatronics Lab. The results greatly improved the look for the lab and the student work environment.

5. Project Performance Information

Provide information if applicable.

- a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
- b. Provide information on estimated annual energy cost savings in monetary terms.
- c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
- d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)

1767.6 kWh (15 room fixtures)+ 131.40 kWh (3 closet fixtures)

=1899 kWh.

5b. Annual Energy COST Savings (\$)

Lab area and closet = **\$212.87**

5c. Annual Operating or Other Cost Savings. Specify. (\$)

Difficult to accurately estimate maintenance costs, but the expected life of T-8 lamps (12000 hrs) compared with LED fixture (70000 hrs) indicate a significant improvement in bulb life, reducing maintenance requirements.

5d. Matching or Supplementary Funding (Identify and Explain)

NA