UNF UNIVERSITY of NORTH FLORIDA.

Osprey Design Experience

Industry Sponsor Project Proposal Request 2022-2023

Completed proposal requests should be emailed to alan.harris@unf.edu and s.stagon@unf.edu

Contact Information:

Company: Green Ellipsis

Contact Person: Brian Alano

Email: brian@greenellipsis.org

Phone Number: (812) 320-1508

Academic Grant Support Information:
Will your company be able to sponsor an academic grant to the University of North Florida if your project is selected for the Osprey Design Experience?

Yes

Amount of Grant:

Single Project - $5,000: ☐ Additional Projects - $2,500 (each): ☐

Individual Sponsor - $3,000: ☐ Non-profit Sponsor - $0: ☐

Other amount: $1000

Project Information:

Estimate the number of students you think are needed for this project: 4

Electrical Students: 2

Mechanical Students: 2

Project Description:
Please provide a general description of the project you would like UNF senior design students to work on. This description will be provided to students for them to select their project preferences and should aim to catch their attention.

Single-use plastic beverage bottles can be recycled by cutting them into long strips which can be used a number of ways. Pulling the strips through a heated die to make them into 3D printer filament not only recycles the bottle, but up-cycles it. In the current state of the art this is a manual process whose resulting filament isn't economically competitive. We envision an automated pultrusion process that accepts unwashed 2-liter bottles and produces quality filament with zero waste products. This is a multi-stage process, including bottle washing, bottle preparation, bottle cutting, strip pultrusion, filament winding, filament splicing, filament packaging and by-product processing, Every stage is a candidate for automation. The design team will consider all stages and select one or more to advance toward full automation. The team will produce a prototype to demonstrate their technological advance.

Administrative:
We understand that if our project is approved for the Osprey Design Experience, we are responsible for all direct costs associated with the capstone design project:

Yes

If your project is approved, can your company logo be displayed on the UNF Osprey Design Website?

Yes

If your project is approved, can a description (including pictures) be displayed on the UNF Osprey Design Website?

Yes

Signature: Brian Alano Digitally signed by Brian Alano
DN: cn=Brian Alano, o=Green Ellipsis, ou, email=brian@greenellipsis.org, c=US
Date: 2022.08.06 23:18:21 -04'00' Date:

If you have any questions regarding submitting a project proposal to the Osprey Design Experience, please contact:

Alan Harris, Ph.D. – Electrical Engineering – alan.harris@unf.edu
Steve Stagon, Ph.D. – Mechanical Engineering – s.stagon@unf.edu