

PROJECT IDEA SUBMISSION – RESEARCH

LABORATORY INFORMATION

Name: Euiwon Bae Date: 9/5/2024

LABORATORY'S LIAISON CONTACT INFORMATION

Name: Euiwon Bae

Title: _____ E-Mail: _____

Phone: () Cell: () Fax: ()

Address: _____

Street Address / P.O. Box

Room/Suite #

City

State

ZIP Code

PROJECT NAME

DoD Capstone design marketplace projects

GENERAL PROJECT DESCRIPTION

The Capstone Marketplace connects undergraduate engineering teams with experts from the Department of Defense to work on challenging design projects. Students will work with Prof. Bae to find the topic of interest and work together on the mini-proposal. If selected, students will perform the tasks in the proposal

WHAT IS THE MECHANICAL ENGINEERING PROBLEM (APPARATUS) YOU ARE WANTING SOLVED (BUILT)?

We will only focusing on the topics that has relevance to the ME curriculum. Students can explore the available topics in <https://capstonemarketplace.org/research-topics/> and download the spreadsheet.

WHY IS THIS PROBLEM (APPARATUS) WORTH SOLVING (BUILDING)? (Value Proposition)

This will be different by the choice of the topic but everything will be planned and scheduled to be completed in 16 weeks (1 semester) w/ \$1000-2000 budget.

WHAT ARE THE MOST IMPORTANT FUNCTIONAL REQUIREMENTS AND SPECIFICATIONS FOR THIS PROJECT?

Req 1: This will all depend on the project selection and approval

Req 2:

Req 3:

...

Spec 1:

Spec 2:

Spec 3:

...

WHAT DO YOU ANTICIPATE THE STUDENTS DESIGNING, ANALYZING, BUILDING/PROTOTYPING AND TESTING? BE AS SPECIFIC AS POSSIBLE.

Which ever topic we pick and apply, all the project will have some level of design, analyze, build and test. Specifics will be different on the nature of the project so it will be finalized during the proposal writing stage This will be discussed among the student teams and Prof. Bae.

:

WHAT IS YOUR BEST ESTIMATE OF THE COST OF THE HARDWARE, COMPONENTS, MATERIALS, ... OF THE PROPOSED PROTOTYPE?

Total \$1000-2000

Hardware Costs:

Component Costs:

Material Costs:

...

HOW MUCH TIME AND EFFORT WOULD YOU EXPECT TO SPEND ON THIS PROJECT IF YOU WERE DOING IT INTERNALLY?

Calendar Months:

Total Hours (Engineering, Shop, ...):

DO YOU BELIEVE THE PROJECT CAN BE COMPLETED WITH EXISTING TECHNOLOGY, IF NOT, ELABORATE ON NEEDED DEVELOPMENTS?

Yes, work will be scoped to be achievable within 16 weeks

CONCERNS OR OTHER RELATED INFORMATION ASSOCIATED TO THE PROPOSED PROJECT?

Concerns: If the proposal didn't make it, student teams should have an backup idea (student-initiated project idea).

The process will first start w/ submitting Expression of Interest (EOI) form the DoD website. If matching department and availability is found, teams will be asked to submit a full proposal (3-4 pages)

Other Info:

ATTACH ANY APPROPRIATE SKETCHES, DRAWINGS, STANDARDS, DATA, PHOTOS, ... USEFUL IN JUDGING APPROPRIATENESS AND SCOPE OF PROPOSED PROJECT.

<https://capstonemarketplace.org/research-topics/>

ARE YOU WORKING WITH ME SENIORS WHO YOU WOULD LIKE ON THIS PROPOSED PROJECT? YES/NO (If YES, provided what information you can.)

NAME	PUID	PHONE	EMAIL

Save this filled out .docx with the following naming nomenclature: "RESEARCH_ *project name* – *student point of contact full name*.docx" where the *italic strings* get replaced with appropriate actual text strings.

If you have any questions concerning a proposed project or completing this form please contact Professor Greg Jensen.

To submit this document for consideration, please complete the survey using either the QR code or the link below.



https://purdue.ca1.qualtrics.com/jfe/form/SV_bkCjo7jyE5Wb7ro

C. Greg Jensen, PhD

Director of Senior Design
Professor of Engineering Practice
School of Mechanical Engineering, Room 2195
Purdue University
585 Purdue Mall
West Lafayette, IN 47907-2088

Office: 765-496-0214

Cell: 801-367-6145

Fax: 765-496-1114

E-mail: jensen23@purdue.edu