INDUSTRIAL SOLUTIONS LABORATORY

Department Project Information

Department Name	*UNCC MEGR*	**Date Submitted**	*05/11/2022*
Project Title	*Safety Glass Vending Machine* **(UNCC_SAFE2)**	**Planned Starting Semester**	*Fall 2022*

Funding

What is the source of funds that will be used to cover all direct costs of this project? _SEEM Department__

Is this source of funds already secured? Yes_ X___ No____ ISL has agreed to fund $1000

Work Space

Have you secured a lab/work space for the project to be built? Yes__X__ No____ DCH 219

Faculty Mentor/Grading Instructors *

	Name	Email	Phone
1	Thomas Koch	ThomasKoch@uncc.edu	
2	John McAlpine	jmcalpin@uncc.edu	704-687-4609
3			

*List any graduate student that will be working on the project as a grading instructor so that they may be added to Canvas.

Senior Design Project Description

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project. Assume 10 hours per week per student.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills:

Discipline	Number	Discipline	Number
Mechanical	3	Electrical	1
Computer		Systems	
Other ( )			

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Project Overview:

This project's is to create a Safety glasses vending machine or dispenser for UNCC lab use. The glasses can be checked in and out with a niner card, credit card or mobile device. This is a Phase 2 project from a project started in Fall 2019. There are materials from the previous design in Duke 219. The new team is expected to familiarize themselves with the previous design and improve on it. Existing materials should be incorporated in the new design as much as possible.

Project Requirements:

The machine should allow dispensing of safety glasses for lab use. These glasses if not returned the student will be charged for them. If returned they will receive a credit.

Expected Deliverables/Results:

Safety glasses vending machine with the ability to return them for credit.

Some form of return validation should be performed.

Use of RFID to track glasses and or taking photos to validate the return of them are possible suggestions. Implementation will be dependent on the skills of the students under the direction of the mentor.

Disposition of Deliverables at the End of the Project:
Project displayed at Expo then transported to DCH 219.

List here any specific skills, requirements, specific courses, knowledge needed or suggested (If none please state none):
CAD
Knowledge of Instrumentation systems
Machine Design
FEA
Programming
PLC
Sensors
Hydraulics
Electrical Actuator experience
Vision Systems
RFID
NFC