Project Instructions

- A maximum of three members is allowed in each group.
- You may work with existing lab partners or form a new group for project.
- You can use **only Atmega16A** either stand-alone or mounted on any other SoC.
- You are free to use AVR Assembly language or C programming for AVR.
- Project carries **absolute 10%** of the course grade.
- All the follow modules are **mandatory**. Your project will not be graded if any module is missing.
- You can either choose a project from the reference list provided or you can come up your own project. Own selected projects will be subject to approval from Lab Engineer.
- Feel free to reach me out at abrarul.haq@seecs.edu.pk if you have any queries.

S.No	Module	Details	Deadline	Weightage
00	Project List	Submit the names of your group members and title of your project in the following spreadsheet. Note that projects chosen from the reference list will be assigned on first come first serve basis. **Project Title Submission Link**	02 April, 2022	-
01	Project Proposal Document	Two pages document with the following breakdown: 1. Cover Page including list of group members 2. Introduction / Goal Statement 3. Functional Specifications - List and Describe High level functions 4. Block Diagram 5. Preliminary List of Components 6. List of relevant/target industries for project	02 April, 2022	10%
02	Project Presentation and Demonstration	-	One week before ESEs	70%
03	Project Final Report	-	One week before ESEs	15%
04	Proposal email to relevant industry for collaboration	-	One week before ESEs	5%

Projects List

S.No	Project Title	Remarks
1.	Moon Tracker: A 2-Axis Gesture-Controlled Camera Platform	
2.	GPS integration for NUST Shuttle Service	
3.	AES Encryption Using Atmega16A	
4.	Electronic Flute	
5.	Atmega16A based USB HID Protocol	
6.	Atmega16A based Dual-core Processor	
7.	NUST Water Quality Monitoring System	
8.	Underwater Robot Localization and Navigation	
9.	Model Electric Skateboard	
10.	Model Smart City	Can be multi-groups project
11.	Cardless Entry in NUST	
12.	Web Controlled Multifunctional Car	
13.	Sound Localization - Determining the direction of an arbitrary sound using Atmega16A	
14.	Spectrum Analyser using Atmega16A	
15.	Flight Simulator	

Furthermore you can choose any project from the comprehensive list below subject to approval.

https://people.ece.cornell.edu/land/courses/ece4760/FinalProjects/