ARM Class Syllabus

1. Understanding Architecture Diagram of ARM cortex m4 and understand how to access 32 bit register using LED Blink Example

2. Switch interface for understand IDR and ODR register and understand how to calculate memory offset for access particular register

3. Different level of Compiler optimization experiment and different case study and practical experiment of Const and volatile keywords

4. ARM GCC Assembly code and Reset sequence ad Access level and T bit and Preprocessor

5. Introduction about different type of ARM BUS interface (AHB and APB)

6. Introduction about Stack memory

7. Different type of Exception (system level exception and NVIC exception)

8. Different level of interrupt priority, for Real time example change preemption priority and sub priority level and understand the different cases

9. Understand what happen during Exception entry and Exit sequences

10. Fault handling mechanism (BUS fault, Hard fault, usage fault, mem fault) and find the fault using Assembly code and Exception entry stack data

11. **Task scheduling algorithm part 1 :** create different task and understand about pendSv, SVC, systick exceptions

12. **Task scheduling algorithm part 2:** understand context switching and blocking state of tasks and scheduling algorithm

13. **Bare-metal embedded part 1:** Understand Build process, Gcc cross Toolchain, Compilation process

14. **Bare-metal embedded part 2:** How to write Makefile, Linker script, startup code and analyze ELF file

15. Develop Driver from scratch

16. **Final 5 project:** These projects we will discuss end of course