

Course Name	Microprocessors II
References	<ol style="list-style-type: none"> 1. Intel 8086 Family User's Manual, Intel, 1979. 2. INTEL 80386 PROGRAMMER'S REFERENCE MANUAL, Intel, 1986. 3. TMS320F2810, TMS320F2812 Digital Signal Processors, Data Manual, Texas Instrument, 2003 revision. 4. TMS320F28xx Assembly Language Tools User's Guide, Texas Instrument, 2001. 5. A.V. Oppenheim, A. Willsky, S. Hamid Nawab, Signals and systems, 2nd edition, Pearson education, second edition, 2014.
Course instructor	Dr. Amir Mousavinia
Syllabus	<p>First Section:</p> <ol style="list-style-type: none"> 1. Review of 8086 microprocessor: The 8086 microprocessor as the ancestor of Intel Family of Microprocessors, registers and memory management. 2. Hardware Architecture of 80386: Basic features, internal architecture and pin out of 80386, new registers, operating system support and main advantages over 8086. 3. Segmentation in 80386: The concepts of segment, segment descriptor, segment descriptor tables, GDT, LDT and GDTR. Protection rules during memory access. 4. Paging: The need for paging and its operation in 80386. 5. Multitasking: Definition of Task, TSS, TR and Task Switch. Rules of Protection during task switching. 6. VM86: The Virtual 8086 machine mode in 80386. <p>Second Section:</p> <ol style="list-style-type: none"> 1. Review: The appearance and impact of DSP processors on industry and their applications. 2. Texas Instrument C2000 Platform: The TMS320LF28xxx family, its internal architecture, MAC operation, timers and interrupts. 3. C2000 Assembly Language: Assembly instruction set and directives, sample programs, simulation tools. 4. Signal Processing Basics: Nyquist sampling theorem, Convolution, Laplace transform, Z transform, FIR and IIR filters. 5. Designing Digital Systems: Moving from an analog system to a fully digital system, writing codes and running on a DSP hardware.