



العدد :

التاريخ : / / ٢٠

<b>Course number and name</b>	<b>EE 3520: Computer Architecture</b>
<b>Credits and contact hours</b>	3 credits and 3 hours
<b>Course coordinator</b>	
<b>Textbooks</b>	Structured Computer Organization (5th edition), A.S. Tanenbaum, 2006 Digital Design Principles and Practices (3rd edition), John Wakerly, 2001
<b>Course Information</b>	a. Prerequisites: EE 1500 Digital Logic b. Selective Elective
<b>Topics to be covered</b>	<p>–Historical perspective of computer architectures and their evolution into current families of computers, Computer system components and organization: processors, primary and secondary memory, input/output ports and devices.</p> <p>–Digital logic elements in computer design: numerical representations, basic circuits, memory, CPU and busses, input and outputs, Microarchitecture level structures and design for implementations of data paths, definable operations and instructions, and various performance options and improvements.</p> <p>–Instruction set architecture for programming: ISA overview, data types, formats, addressing, instruction types, and flow control</p> <p>–Operating system machine functions and instructions used to support applications programming: virtual memory, virtual I/O, and process management.</p> <p>–Assembly language constructs, translation into machine language and support for software module linking and loading.</p> <p>–An overview of parallel computer architectures and design issues</p>