

**2017 - 2018 ACADEMIC YEAR SPRING SEMESTER  
SYLLABUS**

<b>COURSE CODE AND TITLE</b>	ECE510 Advanced Computer Architectures EBM510 İleri Bilgisayar Mimarileri IT530 Computer Organization BT530 Bilgisayar Organizasyonu
<b>TEACHING MEMBER</b>	Prof. Dr. Hasan Huseyin Balik
<b>GRADING PROCEDURE</b>	Midterm (Assignment) %50 and Final %50
<b>TEXT BOOK</b>	<p>1-Computer Organisation and Architecture, 10th Edition (William Stallings)</p> <p>2-Fundamentals of Computer Organization and Architecture (Mostafa Abd-El-Barr &amp; Hesham El-Rewini)</p> <p>3-Advanced Computer Architecture And Parallel Processing (Mostafa Abd-El-Barr &amp; Hesham El-Rewini)</p> <p>4-Computer Architecture A Quantitative Approach, 4th Edition (John L. Hennessy &amp; David A. Patterson)</p> <p>5-Computer Organisation Design and Architecture, 4th Edition (Sajjan G. Shiva)</p> <p>6-Computer Design and Architecture, 3rd Edition (Sajjan G. Shiva)</p> <p>7-The Essentials of Computer Organisation and Architecture (Linda Null and Lulia Lobur)</p> <p>8-Computer Systems Architecture A Networking Approach, 2nd Edition (Rob Williams)</p> <p>9-Digital Desing and Computer Architecture (David Money Harris and Sarah L. Harris)</p> <p>10-Principles of Computer Architecture (Miles J. Murdocca and Vincent P. Heuring)</p> <p>11-Computer System Architecture, 3rd Edition (M. Morris Mano)</p> <p>12-The Architecture of Computer Hardware, System Software and Networking, 4th Edition (Irv Englander)</p>
<b>COURSE OUTLINE</b>	<p>1-Overview</p> <p>2-A Top-Level View of Computer Function and Interconnection</p> <p>3-Cache Memory</p> <p>4-Internal Memory Technology</p> <p>5-External Memory</p> <p>6-Input/Output</p> <p>7-Computer Arithmetic</p> <p>9-Instruction Sets: Characteristics and Functions</p> <p>10-Instruction Sets: Addressing Modes and Formats</p> <p>11-Processor Structure and Function</p> <p>12-Reduced Instruction Set Computers (RISCs)</p> <p>13-Instruction-Level Parallelism and Superscalar Processors</p> <p>14-Parallel Processing</p> <p>15-Multicore Computers</p>