

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

COURSE CODE AND TITLE	(ADVANCED) COMPUTER ARCHITECTURE
TEACHING MEMBER	Prof. Dr. Hasan Huseyin Balik
GRADING PROCEDURE	Midterm (Assignment) %50 and Final %50
TEXT BOOK	<p>1-Fundamentals of Computer Organization and Architecture (Mostafa Abd-El-Barr & Hesham El-Rewini)</p> <p>2-Advanced Computer Architecture And Parallel Processing (Mostafa Abd-El-Barr & Hesham El-Rewini)</p> <p>3-Computer Architecture A Quantitative Approach, 4th Edition (John L. Hennessy & David A. Patterson)</p> <p>4-Computer Organisation Design and Architecture, 4th Edition (Sajjan G. Shiva)</p> <p>5-Computer Design and Architecture, 3rd Edition (Sajjan G. Shiva)</p> <p>6-Computer Organization and Architecture Designing for Performance, 10th Edition (William Stallings)</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>
COURSE OUTLINE	<p>1-Overview</p> <p>2-A Top-Level View of Computer Function and Interconnection</p> <p>3-Instruction Sets: Characteristics and Functions</p> <p>4-Instruction Sets: Addressing Modes and Formats</p> <p>5-Processor Structure and Function</p> <p>6-Reduced Instruction Set Computers (RISCs)</p> <p>7-Instruction-Level Parallelism and Superscalar Processors</p> <p>8-Parallel Processing</p> <p>9-Multicore Computers</p> <p>10-Control Unit Operation</p> <p>11-Microprogrammed Control</p>