

National Computer Education Accreditation Council NCEAC

NCEAC.FORM.001-C

INSTITUTION

University of Malakand

**PROGRAM (S) TO
BE**

BS(Hons) Computer Science

EVALUATED

A. Course Description

(Fill out the following table for each course in your computer science curriculum. A filled out form should not be more than 2-3 pages.)

Course Code	BCS474
Course Title	Computer Architecture
Credit Hours	3
Prerequisites by Course(s) and Topics	Basic knowledge of computer organization is expected. Knowledge of C and an assembly language is also assumed.
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	Internal (homework, quizzes, programming assignments, lab work, etc) 20 %. Mid Term 30%. Final Term 50 %
Course Coordinator	Dr. Muhammad Zahid Khan
URL (if any)	
Current Catalog Description	
Textbook (or Laboratory Manual for Laboratory Courses)	Computer Organization and Architecture by William Stalling 7 th Edition
Reference Material	Barry Wilkinson, Computer Architecture, Design and Performance. D. A. Patterson and J. L. Hennessy Computer Architecture A Quantitative Approach.
Course Goals	The objective of this course is to study computer architecture design by examining architectural concepts with consideration of performance, usability, reliability, and power management etc. This course covers a number of issues involved in the design and utilization of high performance computing systems. These include: Instruction Set Architecture, Performance Evaluation, Pipeline Microprocessor, Cache and Memory, Multiprocessor and Parallel Computing, Interconnection Network, and Embedded Systems.
Topics Covered in the Course,	Weak 1: Introduction, Computer Evolution and Performance

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with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)	Weak 2: Weak 3: Weak 4: Weak5: Weak 5: Weak 6: Weak 7: Weak 8: Weak 9: Weak 10: Weak 11: Weak 12: Weak 13: Weak 14: Weak 15:	Instruction Set Architecture Buses Cache Memory External Memory Input Output Operating System Support Arithmetic Instruction Sets characteristics Instruction sets addressing modes Processor Structure and Function RISC Superscalar Control Unit Micro-Programmed Control Parallel Processing		
Laboratory Projects/Experiments Done in the Course	Simulation of pipelined processor.			
Programming Assignments Done in the Course	Assembly Language Programming			
Class Time Spent on (in credit hours)	Theory	Problem Analysis	Solution Design	Social and Ethical Issues
	40%	20%	30%	10%
Oral and Written Communications	Every student is required to submit at least __3__ written reports of typically __5-8__ pages and to make __1__ oral presentations of typically __20__ minute's duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.			

Instructor Name: **Aftab Alam**

Instructor Signature:



Date: **04/04/2017**