

Computer Design and Performance Evaluation

- **Course number and name:**
CC 528 – Computer Design and Performance Evaluation
- **Credits and contact hours**
Credits Hours: 3Hrs
Contact Hours: In Lecture 2Hrs, and In Tutorial 4Hrs
- **Instructor’s or course coordinator’s name**
Coordinator Name: Dr. Sherif Fadel
- **Text book, title, author, and year**
 - Raj Jain, “The Art of Computer Systems Performance Analysis”, John Wiley and Sons, Inc, latest edition.
- **Specific course information**
 - a. Catalog description**
Principles and techniques of performance measurement in the analysis of computer systems - Detect bottlenecks - Measure efficiency of computer systems and applications.
 - b. prerequisites or co-requisites**
Prerequisites: CC112- CC531
 - c. Types of Course (required, elective, or selected elective course) in the program**
Elective Course
- **Specific goals for the course**
 - a. Specific outcomes of instruction**
After the completion of this course the students will be able to:

| | Course Learning Outcomes | SO |
|---|---|-----|
| 1 | Understand performance measurement techniques, basic principles of queuing theory, experimental design, among others. | A,B |
| 2 | Cope with state of the art technologies in performance analysis and design | J |

Topics to be covered

- Introduction to Performance Analysis
- Approaches to Performance Analysis
- Workloads
- Simulation
- Experimental Design: k Factors with 2 levels
- Experimental Design: k Factors, 2 levels with Replication
- Experimental Design: 2 Factors with multiple levels
- Experimental Design: 1 Factor Designs
- Experimental Design: Fractional Factorial Designs
- Operational Analysis
- More Operational Analysis
- Queuing Theory