

## Computing Systems

- **Course number and name:**  
CC 513 – Computing Systems
- **Credits and contact hours**  
Credits Hours: 3Hrs  
Contact Hours: In Lecture 2Hrs, and In Tutorial 2Hrs
- **Instructor’s or course coordinator’s name**  
Coordinator Name: Prof. Dr. Gamal Selim
- **Text book, title, author, and year**
  - Sima, Fountain, Kacsuk "Advanced Computer Architecture (A Design Space Approach)", 3/Ed, Addison Wesley 1997
  - John P.Hayes, "Computer Architecture and Organization", 2/Ed.,McGraw Hill 1988
  - k.Hwang, "Advanced Computer Architecture", McGraw Hill
  - A.John Anderson, "Multiple processing, A system overview", Prentice Hall, 1989
  - Edward Ritman, "Exploring Parallel Processing", Windcrest, 1990
- **Specific course information**
  - a. **Catalog description**  
High performance computing, ILP, RISC architecture, Memory hierarchy, Pipelining, Vector processing, Array processing, Massively parallel processors, Multiprocessor architecture, Data flow computers, VLSI computing and Systolic arrays..
  - b. **prerequisites or co-requisites**  
Prerequisites: CC418, CC421
  - c. **Types of Course ( required, elective, or selected elective course) in the program**  
Required 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 the concepts of high performance computing advanced computing architectures and multiprocessing requirements.	A,J
2	Understand the impact of VLSI on modern computing architectures is emphasized with applications on different architectures.	H,I,J
3	Identify different Computer Architectures.	I
4	Have a solid background on parallel processing concepts and various modern computational strategies.	A,H,J

