

**TSYS School of Computer Science
Turner College of Business and Computer Science
Columbus State University**

Course Title: CPSC 6105 – Fundamental Principles of Computer Science.

Official Course Description: Overview of basic concepts in computer science ranging from computer hardware components, interconnection network structures and communication protocols, analysis of computer algorithms to software systems and applications.

Course Objective: The aim of this course is to introduce students to the foundation of computer science concepts. In particular, students will demonstrate an understanding of basic concepts in algorithms, computer organization and architecture, operating system, computer networks, and database management system.

Course Outcomes:

- Students will demonstrate knowledge of digital logic analysis and design
- Students will demonstrate knowledge of computer organization and architecture
- Students will demonstrate knowledge of operating systems principles
- Students will demonstrate knowledge of computer network concepts and protocols
- Students will demonstrate knowledge of complexity theory
- Students will demonstrate an understanding of computer algorithms
- Students will demonstrate knowledge of database analysis and design

Textbook: None.

Course Outline:

- Digital Logic Analysis and Design
- Computer Organization and Architecture
- Principles of Operating Systems
- Computer Network Concepts and Protocols
- Complexity Theory
- Analysis of Algorithms
- Database Analysis and Design

Class Format:

- Instructional Delivery via D2L and Tegrity
- Online Course Materials
- Discussion Topics
- Assignments
- Programming project and hands-on labs
- Final Exam

Instructor: Jianhua YANG, Ph.D. (Associate Professor of Computer Science)

Important Dates:

- Last Add/Drop Date August 22, 2014
- Deadline to Withdraw September 12, 2014
- Fall Break October 13-14, 2014
- Final Exam December 11, 2014

Tentative Class Schedule

Weeks	Subjects	Assignment	Programing and Lab
1 (August 18 – 24)	Class Introduction (Tegrity Video)	Acknowledgement and self-introduction through Tegrity.	
2 (August 25 – 31)	Ch1:Digital Logic Circuit		
3 (September 2 – 7)	September 1: Labor day break Ch2:Introduction to computer architecture and organization		Circuit design lab-1
4 (September 8 – 14)	Ch3:Computer performance and evaluation		
5 (September 15 – 21)	Ch4:Top level view of computer function, cache and memory	Assignment 1: Computer Architecture	
6 (September 22 – 28)	Ch5: Intro do OS		
7 (Sep. 29 – Oct. 5)	Ch6: Synchronization and deadlock		
8 (October 6 – 12)	Ch7: Memory and storage management	Assignment 2: Operating System	
9 (October 13 – 19)	Oct. 13-14: Fall Break Ch8: Intro to computer network and application layer		Operating System programming-2
10 (October 20 – 26)	Ch8: Intro to computer network and application layer		
11 (Oct. 27 – Nov.2)	Ch9: Transport layer and network layer (1)		
12 (November 3 – 9)	Ch10: Network layer (2) and data link layer	Assignment 3: Computer network	
13 (November 10 – 16)	Ch11: Computer algorithm design and analysis		Network hands-on lab-3
14 (November 17 – 23)	Ch12: Complexity theory	Assignment 4: computer algorithm design and analysis	
15 (November 24 – 30)	Nov. 26-30: Thanksgiving break Ch13: Introduction to DBMS		
16 (December 1 – 7)	Ch14: Relational database and query	Assignment 5: database management	

The points in this class will be distributed as follows:

- Online question posting and discussion 10%
- Programing projects and Hands-on Labs 30%
- Assignments 30%
- Final Exam 30%

Final grades in this class will be determined as follows:

A: 90 and above

B: 80-89

C: 65-79

D: 55-64

F: <55

Notes:

- Students are responsible to study all online materials, all assigned readings, and all information posted on class website in D2L, including any corrections or changes in due dates, assignments, exams, etc.
- Students are not permitted to submit extra work in an attempt to raise grade.
- No late submissions will be accepted except under the direst of circumstances.
- Partial credits are given to incomplete assignments with substantial details of thought process on the work carried out to obtain the answers.
- Requests for pre-grading or do-over of assignments will be ignored and discarded.

Policy on academic integrity: Students are encouraged to study together; however, each student must individually prepare his/her own submission. Cheating or plagiarism is not permitted and will be sanctioned according to the CSU policy on academic standards. You should carefully read the section on Academic Misconduct in the Student Handbook. Your enrollment in this course implies that you have read it, and that you subscribe to the principles stated therein.

If you have a documented disability, as described by the Rehabilitation Act of 1973 (P.L. 933-112 Section 504) and the Americans with Disabilities Act (ADA) and subsequent amendments and would like to request academic and/or physical accommodations, please contact the Office of Disability Services in the Schuster Student Success Center (room 221), 706-507-8755, as soon as possible. Course requirements will not be waived, but reasonable accommodations may be provided as appropriate.