Department of computer science

College of science

University of Cihan /Sulaymaniyah

Subject: Operating System II

 Year: 4 / semester Two

Lecturer's name: Sadeer Dheyaa AbdulAmeer

Academic Year: 2023/2024

Course Book

1. Course name	**Operating System II**
2. Lecturer in charge	**Sadeer Dheyaa AbdulAmeer**
3. Department/ College	**Computer science/college of science**
4. Time (in hours) per week	**Theory: 2** **Practical: 2**
5. Office hours	**Full time**
6. course code	**CSC4202**
7. Keywords	
8.Teacher's Academic profile	**Certificates :** B.S.c computer science –AL Mansour university college 2010 ,Baghdad –Iraq M.S.c computer science – Oxford college-Bangalore - India Experience : In 2013 AL Nakhba college handled logic design for second semester. In 2014-2015 Cihan university /Sulaymaniyah handled object oriented programming in Java, computer skills, computer application,operating system I. In 2014-2015 admin of Cihan website. In 2015-2016 currently handle object oriented programming in C# and operating system I,II and computer skills Experience : one semester in Nakhba college in Baghdad plus one year of experience in Cihan/Sulaymaniyah

9. Course overview:
We have studied in previous course the basics of operating system which talked about what is operating system , parts of operating system , in this course we will study advance topics of operating system which include process , process scheduling , real memory ,

virtual memory , input output , file management ,deadlock

10. Course objective:

To have broad knowledge of principles of operating systems, software and hardware. These together with, real storage , virtual storage , processor scheduling and disk management other related topics guides students to have a detailed concepts of operating system function .

11. Forms of teaching

12. Assessment scheme
 Term test As (25%)
  Laboratory As (15%)
 Quiz and Presence As (10%)
Final Exam theory As (35%)
Final laboratory As (15 %)

13. Student learning outcome:

14. Course Reading List and References:
   1. Operating Systems, 5th edition, Deitel McGraw Hill 2005.
   2. Operating Systems ,Design and Implementation , 3th edition,S.Tanebaum and S.Woodhull. Prentice Hall 2006.

15. The Topics:	Lecturer's name
Week 1 : Process concept , process state , PCP, Scheduling Queue , Scheduler, context switch , process creation , process termination, process termination , Cooperating process, Week 2-3: IPC , Direct communication, indirect communication, Synchronization , Buffering , Client server communication , Socket , Remote procedure call , Remote method Invocation Week 4-5 :	Sadee Dheyaa

Processor scheduling policy , Scheduling level , Scheduling Criteria ,

Type of Scheduling, FCFS Scheduling, SJF Scheduling, RR scheduling, Priority Scheduling.

Week 6 -7:

Memory management , Binding of Instructions and Data to Memory,

Logical vs. Physical Address Space,MMU, Dynamic Loading , Dynamic linking , Overlays , Swapping

Week 8 -9:

Contiguous allocation , Dynamic Storage-Allocation Problem, Fragmentation , Paging , Address Translation Scheme,

Paging , page table ,

Week 10 :

Effective access time ,memory protection , address translation scheme,

Hashed page table ,Inverted Page Table, Segmentation , Segmentation Architecture , Segmentation Hardware ,

Week 11-12 -13:

Virtual memory , demand Paging , valid-invalid bit , Page fault , memory mapped files , Page replacement , page and frame replacement algorithm , allocation of frames , thrashing

Week 14-15 :

Deadlock problem , deadlock characterization , resource

allocation graph, handling deadlock ,safe state , deadlock detection ,	
16. Practical Topics	
All the above topics have a practical	Sadeer Dheyaa

17. Examinations:

*1. **Compositional:*** in this model the questions will be what , why , how ,etc

*2. **True or false type of exams:***

In this type of questions will be asked about true and false and re correct the false statement.

*3. **Multiple choices:***

In this model the questions will be multiple choice

18.Peer review :