**INSTITUTION National University of Computer and Emerging Sciences, Karachi Campus**

BS (CS), Spring 2021

**PROGRAM (S) TO BE**

**EVALUATED**

1. **Course Description**

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| **Course Code** | CS220 | | | |
| **Course Title** | OPERATING SYSTEM | | | |
| **Credit Hours** | 3 + 1 | | | |
| **Prerequisites by Course(s) and Topics** | ITC and DS | | | |
| **Assessment Instruments with Weights** (homework, quizzes, midterms, final, programming assignments, lab work, etc.) | Midterms 30%  Class activity written + Assignments 10%  Projects 10%  Final Exam 50% | | | |
| **Course Coordinator** |  | | | |
| **URL (if any)** |  | | | |
| **Current Catalog Description** |  | | | |
| **Textbook** (or **Laboratory Manual** for Laboratory Courses) | Operating system Concepts by Silberchatz | | | |
| **Reference Material** | Modern Operating System Tannenbaum | | | |
| **Course Goals** | * To Describe the basic organization of computer system. * To provide a grand tour of major component of operating system * To give an overview of the many types of computing environments. * To explore several open source operating system. | | | |
| **Topics Covered in the Course, with Number of Lectures on Each Topic** (assume 15-week instruction and one-hour lectures) | **Week 1: Introduction to Operating system** | | | |
| **Week 2:** **Operating system structure** | | | |
| **Week 3:** **Operating system structure** | | | |
| **Week 4: Process Concept**(Process scheduling, interprocess communication) | | | |
| **Week 5**: **Process Scheduling** | | | |
| **Week 6**: **FIRST MID TERM EXAMINATION** | | | |
| **Week 7: Multithread Programming Models** | | | |
| **Week 8: Process Synchronization** | | | |
| **Week 9:** **Process Synchronization** | | | |
| **Week 10: Memory Management Strategies** | | | |
| **Week 11: SECOND MID TERM EXAM** | | | |
| **Week 12: Memory Management Strategies** | | | |
| **Week 13: Virtual Memory** | | | |
| **Week 14: Virtual Memory** | | | |
| **Week 15: Deadlock** | | | |
| **Week 16: Disk Scheduling** | | | |
| **Laboratory Projects/Experiments Done in the Course** | Lab manual available separately | | | |
| **Programming Assignments Done in the Course** | Programming Assignments will be given. | | | |
| **Class Time Spent on** (in credit hours) | **Theory** | **Problem Analysis** | **Solution Design** | **Social and Ethical Issues** |
| 20% | 30% | 40% | 10% |
| **Oral and Written Communications** | Every student is required to submit a project along with its report of not more than 8 pages. | | | |