

## CCS3203 Operating Systems

### COURSE INFORMATION

| Prerequisites     | Academic Year & Level |          | Teaching Methods |          |            | Credit Hrs. |
|-------------------|-----------------------|----------|------------------|----------|------------|-------------|
|                   | Year                  | Semester | Lecture          | Tutorial | Laboratory |             |
| CCS2103 & CCS2401 | 3                     | 5        | 2                | 2        | 2          | 3           |

### COURSE AIM

- Understand the processes and threads concepts.
- Apply process management techniques.
- Experiment with memory management techniques.
- Practice with sample resource management problems such as concurrency control and mutual exclusion.
- Master operating systems algorithms such as CPU scheduling and page replacement algorithms.
- Evaluate performance of various OS components

### COURSE WEEKLY CONTENTS

- 1 Course Introduction and Computer System Overview part 1
- 2 Computer System Overview part 2
- 3 Operating System Overview
- 4 Process Description and Control part 1
- 5 Process Description and Control part 2
- 6 Threads
- 7 Concurrency: Mutual Exclusion and Synchronization part 1
- 8 Concurrency: Mutual Exclusion and Synchronization part 2
- 9 Concurrency: Deadlock and Starvation
- 10 Memory Management
- 11 Virtual Memory part 1
- 12 Virtual Memory part 2
- 13 Uniprocessor Scheduling
- 14 File Management
- 15 Disk Scheduling

### STUDENT GRADING & ASSESSMENT

| Weeks    | Exams | Assign. | Quizzes | Reports | Present. | Lab. | Total |
|----------|-------|---------|---------|---------|----------|------|-------|
| 1 to 7   | ←     |         | 3 0     | MARKS   |          | →    | 30    |
| 8 to 12  | ←     |         | 2 0     | MARKS   |          | →    | 20    |
| 1 to 15  | ←     |         | 1 0     | MARKS   |          | →    | 10    |
| 16 or 17 | 40    | Final   |         |         |          |      | 40    |

### REFERENCES

Textbook William Stallings, Operating Systems: Internals and Design Principles, Pearson.