The Hashemite University

الجامعـــــة الهاشميـــــة

Deanship of Academic Development and International Outreach

عمادة التطوير الأكاديمي والتواصل الدولي

Operating Systems (1910011431)

Second Semester 2021/2022

COURSE INFORMATION	
Course Name: Operating Systems **Semester:** Second Semester 2021/2022 **Department:** Department of Computer Science and Applications **Faculty:** Prince Al-Hussein Bin Abdullah II Faculty for Information Technology	**Course Code:** 1910011431 **Section:** Mandatory **Core Curriculum**:
Days and Times: Monday: 12:30-2:00, 2:00-3:30 Wednesday: 11:00-12:30 **Classroom:** IT 303	**Credit Hours:** 3 **Prerequisites**: 110408240 – Computer Organization

COURSE DESCRIPTION

Three credit hours is counted for this course. This course is a graduate-level introductory course in operating systems. The course covers the core concepts of operating systems including operating systems structures, processes, threads, process synchronization, CPU scheduling and deadlocks. These topics are covered in general setting that is not tied to a particular operating system. However, several examples are presented in various operating systems to illustrate these concepts. The student should have good background knowledge in basic data structures, computer organization, and a high-level language, such as C or Java. This is NOT a programming intensive course, however, students will be expected to complete some programming exercises along the way.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion
- Video lectures
- E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team

FACULTY INFORMATION

Name	**Ashraf Aljammal**
Academic Title:	**Associate Professor**
Office Location:	**IT 236**
Telephone Number:	

Email Address:	**ashrafj@hu.edu.jo**
Office Hours:	**Monday** 3:15-4:30 **Wednesday** 3:15-4:30 *Please send an e-mail (ashrafj@hu.edu.jo) to meet at any other time.*

REFERENCES AND LEARNING RESOURCES

Required Textbook: Operating System Concepts, 9th ed., Abraham Silberschatz, Peter B. Galvin, Greg Gagne, Wiley, 2013.

Suggested Additional Resources:

- Operating Systems, 3rd ed., Harvey M. Deitel, Paul Deitel and David R. Choffnesthird edition, Prentice Hall, 2010.
- Modern Operating Systems, 4th ed., Andrew S. Tanenbaum and Herbert Bos, Pearson, 2015.
- Operating Systems: Internals and Design Principles, 8th ed., William Stallings, Pearson, 2014.

STUDENT LEARNING OUTCOMES MATRIX*

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Student Learning Outcomes	Assessment Method
Understand, and evaluate computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	Teach computer science as a discipline of problem-solving.	• Explain the underlying concepts and principles of operating system.	SLO2	Exams
		• Describe Operating Systems Structure.	SLO1	Exams & quiz
		• Explain the processes and threads concepts.	SLO2	Exams
		• Explain Process Synchronization.	SLO2	Exams & quiz
		• Explain CPU Scheduling and Deadlocks.	SLO2	Exams

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are

met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:
Tel:
Location:
Email:

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam or assignment discussion on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting the assignment on time is a key part of the assessment process (Late turn-ins not allowed). There will be a discussion after the deadline and not attending the discussion means your mark will be zero.
- In cases where a student misses an exam on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
Mid Exam	40%	
Assignment	10%	
Quiz	10%	
Final Exam	40%	

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of multiple choice questions.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

Topic	Chapter in Text	Week #
Introduction	Ch1	Week 1,2
Operating Systems Structure	Ch2	Week 3,4
Processes	Ch3	Week 5,6
Threads	Ch4	Week 7,8
Process Synchronization	Ch5	Week 9,10,11
CPU Scheduling	Ch6	Week 12,13
Deadlocks	Ch7	Week 14,15