

**University of Technology**  
**Computer Engineering Department**  
**Academic Year 2023 - 2024**

**Second Year – Second Semester - Information Technology Branch**



<b>CE-IT233</b>	<b>Operating System II</b>	<b>2 Hours/Week</b>	<b>2 Units</b>
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Contents of Syllabus	Hours
<b>1- Deadlocks</b> <ul style="list-style-type: none"> <li>• System Model</li> <li>• Deadlock Characterization</li> <li>• Methods for Handling Deadlocks</li> <li>• Deadlock Prevention</li> <li>• Deadlock Avoidance</li> <li>• Deadlock Detection</li> <li>• Recovery from Deadlock</li> </ul>	6
<b>2-Memory-Management Strategies</b> <ul style="list-style-type: none"> <li>• Background</li> <li>• Swapping</li> <li>• Contiguous Memory Allocation</li> <li>• Paging</li> <li>• Segmentation</li> </ul>	8
<b>3- File Systems</b> <ul style="list-style-type: none"> <li>• File-System Structure</li> <li>• File-System Implementation</li> <li>• Directory Implementation</li> <li>• Allocation Methods</li> <li>• Free-Space Management</li> <li>• Efficiency and Performance</li> <li>• Recovery</li> <li>• NFS</li> </ul>	8
<b>4- Secondary-Storage Structure</b> <ul style="list-style-type: none"> <li>• Overview of Mass-Storage Structure</li> <li>• Disk Structure</li> <li>• Disk Attachment</li> <li>• Disk Scheduling</li> <li>• Disk Man.agement</li> <li>• Swap-Space Management</li> </ul>	8

**References**

- 1- Avi Silberschatz, Peter Baer Galvin, Greg Gagne, "operating system concepts" 8th edition
- 2- Andrew S. Tanenbaum "Operating Systems Design and implementation," Third Edition

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