<table>
<thead>
<tr>
<th>科目名稱</th>
<th>即時系統 (Q3-023/Q3552600)</th>
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<tr>
<td>學分數</td>
<td>3</td>
</tr>
<tr>
<td>開課學期</td>
<td>上學期</td>
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### 教學目標
1. 瞭解即時系統與基本即時系統軟體設計
2. 瞭解即時任務排程(Task Scheduling)之理論與技術
3. 經由文獻研讀與討論瞭解即時系統之發展與應用

### 教學大綱
※講義課程大綱：
1. 即時系統概念與應用簡介
2. 即時系統基本架構與即時任務排程(Task Scheduling)
3. 基礎即時任務排程(Task Scheduling)理論與技術
4. Fixed-Priority Servers
5. Dynamic Priority Servers
7. Overload Handling
8. Kernel Design Issues
9. Introduction to Real-Time Operating Systems
※文獻閱讀討論大綱：
1. Real-Time Scheduling: Rate-Monotonic and EDF Scheduling
2. Real-Time in Embedded Systems
3. Real-Time Scheduling in Multimedia Applications

### 參考教材
1. 自編教材
2. 主要教科書：
   * Hard Real-Time Computing Systems – Predictable Scheduling Algorithms and Applications*
   作者：Giorgio C. Buttazzo，
3. 相關文獻

### 講授方式
1. 課堂講解與討論，實習演練。
2. 文獻閱讀、報告與討論。

### 成績考評
出席狀況，作業練習與實習演練，期末報告。

### 備註
<table>
<thead>
<tr>
<th>Course Name</th>
<th>Real-Time System (Q3552600/Q3-023)</th>
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<tbody>
<tr>
<td>Credits</td>
<td>3</td>
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<tr>
<td>Period</td>
<td>Fall Semester</td>
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2. Understand the theory and techniques of real-time scheduling  
3. Getting familiar with the advances in techniques of real-time systems and their applications through literature study |
| Schedule   | A. Lecture and Presentation:  
1. Introduction to Real-Time System: Concepts and Applications  
2. Real-Time System Architecture and Task Scheduling  
3. Fundamental Real-Time Scheduling Theory and Techniques  
4. Fixed-Priority Servers  
5. Dynamic Priority Servers  
7. Overload Handling  
8. Kernel Design Issues  
9. Introduction to Real-Time Operating Systems  
B Literature Study and Discussion:  
1. Real-Time Scheduling: Rate-Monotonic and EDF Scheduling  
2. Real-Time in Embedded Systems  
3. Real-Time Scheduling in Multimedia Applications |
| References | 1. Hand-out of Lecture Notes  
   Author: Giorgio C. Buttazzo,  
3. Related literature |
| Lecture type | 1. Classic classroom lecture and discussion  
2. Literature study, discussion and presentation |
| Grade      | Attendance and participation, home work, lab exercises, term report |
| Others     |                                      |