Real Time Systems - Video course

COURSE OUTLINE

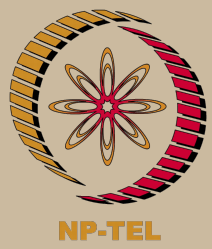
Real-time systems are finding increasing use.

The following issues will be discussed.

- Introduction
- Modeling Timing constraints
- Scheduling Real-Time Tasks: Types of Schedulers, table-driven, Cyclic, EDF, RMA
- Handling Resource sharing among real-time tasks
- Scheduling Real-Time Tasks in Multiprocessor and Distributed systems
- Commercial Real-time operating systems: General concepts, Unix and Windows as RTOS
- Survey of commercial RTOS
- Real-Time Communication
- Real-Time Databases

COURSE DETAIL

Module No.	Topics	No. of Hours
1	Introduction	6
2	Modeling Timing constraints	3
3	Scheduling Real-Time Tasks: • Types of Schedulers • Table-driven scheduling • Cyclic schedulers • EDF • RMA	9
4	Handling Resource sharing among real-time tasks	6
5	Scheduling Real-Time Tasks in Multiprocessor and Distributed systems	3
6	Commercial Real-time operating systems:	6



NPTEL

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Computer Science and Engineering

Pre-requisites:

1. Programming and Data Structures
2. Operating Systems
3. Computer Architecture and Organization
4. Computer Communication
5. Database Systems

Additional Reading:

1. Alan C. Shaw, Real-Time Systems and Software, Wiley, 2001.
2. Philip Laplante, Real-TIme Systems Design and Analysis, 2nd Edition, Prentice Hall of India.

Coordinators:

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	• General concepts • Unix and Windows as RTOS	
7	Survey of commercial RTOS	5
8	Real-Time Communication	4
9	Real-Time Databases	3
Total		**45**

References:

1. Rajib Mall, "Real-Time Systems: Theory and Practice," Pearson, 2008.
2. Jane W. Liu, "Real-Time Systems" Pearson Education, 2001.
3. Krishna and Shin, "Real-TIme Systems," Tata McGraw Hill. 1999.