Real-Time Systems: Reading Instructions 2012

The different parts of the course have different nature. The following list shows the importance of the different chapters in the book, and of the different lectures.

The following codes are used:

1. This material is central in the course. You should be deeply familiar with all the results, examples, problems, and code examples.

2. This material is part of the course, but not as important as the parts denoted by 1. You should be familiar with the general ideas, but not with all the details.

3. This material is included in the documentation mainly to make it self-contained. You are recommended to read it but it will not be part of the exam.

Java is the main programming language at the exam. Java API documentation will be provided in an appendix, if it is believed necessary. You are, however, still required to understand the Modula-2 code examples in the RTCS book, e.g., the implementation of semaphores, monitors, and timing primitives. You are also required to understand and write embedded C code of the type that was used in Laboratory 3.

Real-Time Control Systems (RTCS)

Level	Chapter	Pages	Remarks
1	1	5–10	
1	2	13–18	
1	3	19–37	
1	4	38–65	
3	4.4	65–67	
1	4	67–77	
1	5	78–91	
3	6.1-6.3	92–111	
2	6.4	111–121	
3	6.5	121–126	
2	6.6	126–131	
1	7.1	132–134	
3	7.2-7.4	134–144	
1	8	145-152	3: Theorem 8.2 3: Best-Case Response Times 3: Interprocess Communication 3: Release Jitter 3: Nonideal real-time kernels
3	8.5		Aperiodic Tasks
3	9.1-9.2	156-159	
1	9.3	160–167	
3	9.4	168–174	
1	10	179–203	
1	11	204–212	
1	12	213–223	

IFAC Professional Brief

Level	Chapter	Pages	Remarks
1	1	5–11	
1	2	12–15	
1	3	16–30	3: First-order Hold Sampling (pg 22 and 29)
2	4	31-35	
3	5	36–39	
1	6	40–46	
3	7	47–50	
1	8	51–57	Overlap with RTCS
1	9	58–74	
3	10	75–82	
3	11	83–88	
2	12	89–96	
1	13	97–106	Overlap with RTCS
2	14	107–112	

Lecture slides

The material from the lectures consists of the copies of the lecture slides

Level:	Lecture	Remarks
1	1	
2	X:Java	
1	2	
1	3	
1	4	
1	5	
1	6	
1	7	
1	8	
1	9	
1	10	
1	11	
1	12	
1	14	
2	15	1: Delay Margin
2	16	1: CAN arbitration