

3-8-2020

APRIL

Monday

WK 15 • 097-268

7

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	
M	T	W	T	F	S	S

CSE 503

CONCURRENT DATA STRUCTURES

9 TAUGHT BY

10 • prof. govindarajulu R

12 COURSE TOPICS

1 1. concurrent objects

2 • concurrency and correctness

3 • quiescent consistency

4 • sequential consistency

5 • linearizability

6 2. spin locks &amp; contention

• test-and-set locks

• exponential backoff

• queue locks

APRIL

8

Tuesday

098-267 • WK 15

3.8.2020

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2	3	4	5
9	10	11	12
16	17	18	19
23	24	25	26
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MARCH 2014

### 3. monitors & blocking synchronization

- monitor locks & conditions
- readers-writers locks semaphores

### 4. linked lists

- the role of locking
- list-based sets
- coarse-grained synchronization
- fine-grained synchronization
- optimistic synchronization

### 5. concurrent queues

- a bounded partial queue
- an unbounded total queue
- an unbounded lock-free queue

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38-2020

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## 6. concurrent stacks

- unbounded lock-free stack
- elimination
- the elimination back-off stack

## 7. counting, sorting, and distributed coordination

- shared counting
- software combining
- counting networks

## 8. transactional memory

- transactions & atomicity
- software transactional memory
- hardware transactional memory

## TEXT BOOKS

1. the art of multiprocessor programming (2008)

2014