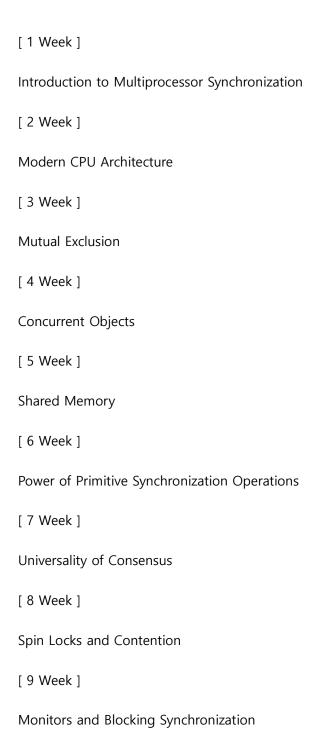# 4190.684 Distributed Systems(Multiprocessor Synchronization)

We study the synchronization problems arsing from using multicore and multiprocessor systems and how to solve them.
Starting with basic concepts and theoretical backgrounds regarding distributed computation, we march on to learn various ways to cope with synchronization problems using the state of the art hardware available.

[1 Week]

Introduction to Multiprocessor Synchronization

[2 Week]

Modern CPU Architecture

[3 Week]

Mutual Exclusion

[4 Week]

Concurrent Objects

[5 Week]

Shared Memory

[6 Week]

Power of Primitive Synchronization Operations

[7 Week]

Universality of Consensus

[8 Week]

Spin Locks and Contention

[9 Week]

Monitors and Blocking Synchronization

[10 Week]

Locking

[11 Week]

Concurrent Queues/Stacks

[12 Week]

Distributed Coordination

[13 Week]

Concurrent Hashing & Priority Queues

[14 Week]

Barriers

[15 Week]

Introduction to Multiprocessor Synchronization

Students who are absent for over 1/3 of the class will receive a grade of 'F' or 'U' for the course. (Exceptions can be made when the cause of absence is deemed unavoidable by the course instructor.)

Students who take this course can get appropriate level of support service including the support listed above depending on the students' individual characteristics and needs through consultation with professors and the Support Center for Students with Disabilities. If you have any questions concerning support service for students with disabilities you can contact Professor Yeom, HeonYoung(02-880-5583) or Support Center for Students with Disabilities (02-880-8787).