

CS555 Syllabus—Spring 1998

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January 22, 1998

Class begins January 9 and ends April 27, with January 19 and February 16 off. April 29 is a stop day. The final will be Monday, May 4, 8am–10am.

Changes: 21-Jan-98: Papers moved for Spring break (March 9–13). 22-Jan-98: final exam date was wrong.

Optional text: [1].

1 Introduction

Class 0 (Jan. 7): Diagnostic exam

Class 1 (Jan. 12): Introduction Overview/Reading: [2, 3, 4].

Class 2 (Jan. 14): design principles [5, 6, 7]. (Optional: Text Chapter 2 (Design Goals).) Homework 1 given out.

2 Concurrency

Class 3 (Jan. 21): Monitors and messages [8, 9, 10].

Class 4 (Jan. 26): RPC [11, 12]. Optional: Text Chapter 5 (RPC).

Class 5 (Jan. 28): DSM [13, 14].

Class 6 (Feb. 2): Causality [15, 16]. Homework 1 due, homework 2 given out.

Class 7 (Feb. 4): ISIS and schedulers [17, 18].

3 Naming/Resource Discovery

Class 8 (Feb. 9): classic naming [19, 20].

Class 9 (Feb. 11): Naming extensions [21, 22, 23].

Class 10 (Feb. 18): Internet naming [24, 25, 26, 27]. Homework 2 due, homework 3 given out.

4 File Systems

Class 11 (Feb. 23): Physical file systems I [28, 29, 30]. (Optional: Text Chapter 7 (File Service: A Model).)

Class 12 (Feb. 25): Physical file systems II [31, 32].

Class 13 (Mar. 2): Distributed file-systems I [33, 34, 35]. (Optional: Text Chapter 8 (File Service: Case Studies).)

Midterm: Mar. 4. Homework 3 due. Homework 4 given out. Paper proposal due.

(Spring break.)

Class 14 (Mar. 16): Distributed file-systems II [36, 37].

5 Replication

Class 15 (Mar. 18): Voting, Coda, Ficus [38, 39, 40].

6 Distributed state

Class 16 (Mar. 23) Distributed state [41, 42]

7 Security

Class 17 (Mar. 25): Security overview [43, 44, 45]. (Optional: Text Chapter 16 (Security).)

Class 18 (Mar. 30): Key distribution, confinement, logic [46, 47, 48]. Homework 4 due, homework 5 given out.

8 Databases

Class 19 (Apr. 1): Databases and OS [49, 50]. (Optional: Text Chapter 12 (Shared Data and Transactions), 14 (Distributed Transactions))

9 Kernels

Class 20 (Apr. 6): microkernels [51, 52, 53]. (Optional: Text Chapter 18.1–6 (Case Studies).) Paper proposals must be accepted by this date.

Class 21 (Apr. 8): layering [54, 55]. Paper proposal must be approved by this date.

Class 22 (Apr. 13): abstraction [56, 57].

10 Case Studies and Performance Analysis

Class 23 (Apr. 15): Unix, Plan-9, Condor [58, 59, 60]. Homework 5 due, homework 6 given out.

Class 24 (Apr. 20): Sprite, Amoeba [61, 62].

Class 25 (Apr. 22): Performance studies [63, 64].

Class 26 (Apr. 27): Performance studies, Athena [65, 66]. Term paper due. Homework 6 due.

Apr. 29 (stop day). Optional review (if classroom available and students interested).

Final exam (May 4), 8–10am.

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