Reading materials

Exam material: Exam materials include (i) book sections as noted below, (ii) Slides (many slide sources/reading materials are also given as footnotes in slides), (iii) Labs, and (iv) Guest Lectures.

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Book: Distributed Systems **(February 2017)** by Maarten van Steen and Andrew S. Tanenbaum

- **Chapter 1: Introduction**
  - All except Advanced Notes
- **Chapter 2: Architectures**
  - 2.1-2.3 Various architectures
  - 2.4 NFS
- **Chapter 3: Processes**
  - 3.2 Virtualization (instead of VM book)
- **4 Servers**
  - p. 131 Stateless vs stateful
  - p. 142 Request dispatching i.e. load balancing [relates to Replication class
- **Chapter 4: Communication**
  - 4.1 and 4.2 from p.170 till p.188, Remote Procedure Call
  - 4.3 from 206-210, Message Queueing
  - 4.4 from 229 till 233 (stop at Removing Data)
- **Chapter 6: Coordination**
  - 6.1 Clock synchronization
  - 6.2, Logical clocks
  - 6.3 Mutual Exclusion
  - 6.4 Election Algorithms
  - 6.7 Section on Aggregation
- **Chapter 7: Consistency and Replication**
  - 7.1 Introduction
  - 7.2 from p.365-372 Sequential and Causal consistency
  - 7.2 Eventual consistency
  - 7.4 from p.383-393 Replica management
  - 7.5 from p.398 ("Primary-based protocols") to 405
  - 7.6 till p.412 Example: Caching and replication in the Web
- **Chapter 8: Fault Tolerance**
  - 8.1 Introduction
  - 8.2 till 438, Process resilience

- 8.2 from 460 ("Consistency, availability, partitioning") to 462 (Read references in slide Brewer 2012)
- 8.3 Reliable client-server communication
- 8.4 Reliable group communication

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Book: The Practice of SNA

- Chapter 2: The Small Batches Principle Chapter 3: Pets and Cattle
- Chapter 4: Infrastructure as Code