MASTER IN COMPUTER SCIENCE

UNIVERSITÉ DE NEUCHÂTEL

DISTRIBUTED SYSTEMS

Introduction

Dr Valerio Schiavoni and Prof Peter Kropf
University of Neuchâtel – Fall 2020

Who is who

Instructors: Dr Valerio Schiavoni and Prof Peter Kropf

Researchers on all-things distributed systems: storage, large-scale p2p protocols, secure computation, virtualisation techniques, cloud computing, etc.

Assistant: Isabelly Rocha

PhD student in distributed systems and cloud-computing

GOALS

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- Obtain basic knowledge on distributed systems

- Course contents:
  - Fundamental theoretical concepts
  - Programming tools
  - Practical projects

CONTENTS

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- Characterization of distributed systems
- System models
- Networking and Internetworking
- Interprocess Communication and Remote Invocation
- Indirect communication
- Time and Global States
- Coordination and Agreement
- Replication
- Distributed Shared Memory
- P2P, Mobile and Ubiquitous Computing

BIBLIOGRAPHY

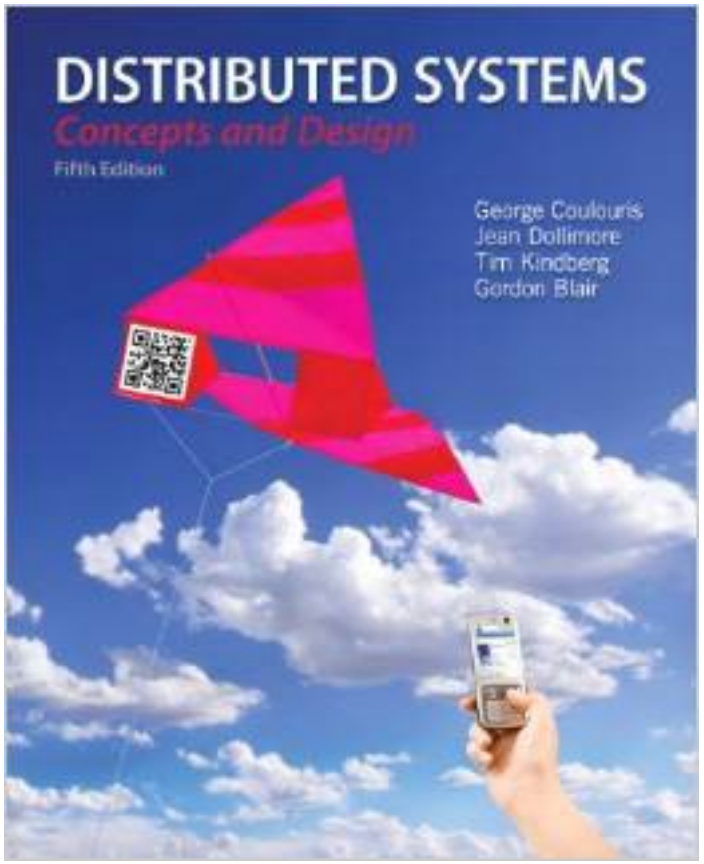
***Distributed Systems Concepts and Design**, 5th ed.*

George Coulouris,
Jean Dollimore,
Tim Kindberg and
Gordon Blair

Addison-Wesley, 2012

ISBN: 978-0132143011

http://www.cdk5.net/

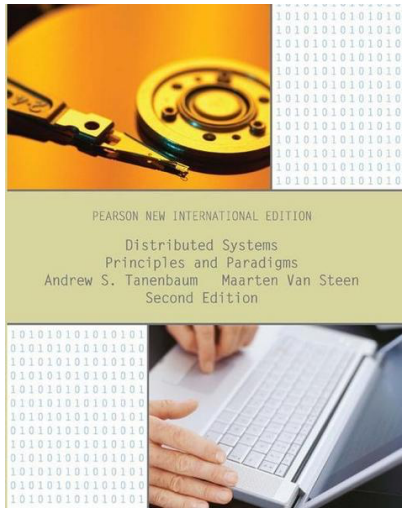


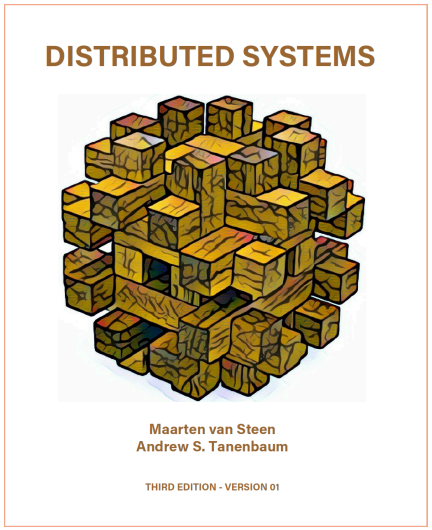
BIBLIOGRAPHIE

Distributed Systems: Principles and Paradigms, 3rd ed. (2017)

Andrew S. Tanenbaum,
Maarten Van Steen

https://www.distributed-systems.net/index.php/books/ds3/





FORMAT & EVALUATION

- 14h15 - 16h00 – Theoretical course
- 16h15 - 18h00 – Theoretical or practical session
  - 3 projects
  - assignments (not graded)

▪ ▪ ▪ ***Please consider the particular organisation/schedule rules of this term. Details will be presented in the course and communicated via the ILIAS system.***

- Evaluation (all mandatory)
  - Written exam (60%)
  - Projects (40%)

- Registration on ILIAS:
  - https://ilias.unibe.ch/goto_ilias3_unibe_crs_1841343.html

SCHEDULE

- September 15 22 29
- October 6 13 20 27
- November **3 10 17 24**
- December 13 **8** 15

Projects' deadlines:

1. 3 November 23:59 CET
2. 24 November 23:59 CET
3. 18 December 23:59 CET

CONTACTS

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- Isabelly Rocha, isabelly.rocha@unine.ch