

Please find below some exemplary book recommendations for topics covered in the written entrance exam for the master program “Distributed Software Systems”.

#### Functional and Object-oriented Programming Concepts:

- How to Design Programs; M. Felleisen et al.; The MIT Press Cambridge
- Structure and Interpretation of Computer Programs; H. Abelson et al.; Springer
- Thinking in Java; B. Eckel; Prentice Hall

#### Algorithms and Data Structures:

- Introduction to Algorithms (3<sup>rd</sup> ed.); Cormen, Leiserson, Rivest, Stein; MIT Press

#### Automata, Formal Languages and Decidability:

- Introduction to Automata Theory, Languages, and Computation (3rd ed.); Hopcroft, John E.; Motwani, Rajeev; Ullman, Jeffrey D. (2013); Pearson.

#### Software Engineering:

- Design Patterns - Elements of Reusable Object-Oriented Software; E. Gamma, R. Helm, R. Johnson, J. Vlissides; Prentice Hall
- WHY PROGRAMS FAIL: A Guide to Systematic Debugging; A. Zeller; Morgan Kaufmann
- Writing Effective Use Cases; A. Cockburn; Pearson
- Object-Oriented Software Construction; Meyer, B; Prentice Hall
- Software Engineering; Ian Sommerville; Pearson

#### Introduction to Compiler Construction:

- Programming Language Processors in Java; Watt/Brown

#### Computer Networks and Distributed Systems:

- Computer Networks; 5th Ed.; A. Tanenbaum, D. Wetherall; Prentics Hall 2010

#### Information Management:

- Fundamentals of Database Systems; 3rd. ed.; Elmasri, R., Navathe, S. B.; Redwood City, CA: Benjamin/Cummings
- Principles of Database and Knowledge-Base Systems; Ullman, J. D; Vol. 1 Computer Science