

## Content

| Course Code | Course Name                          | Semester | Theory | Practice | Lab | Credit | ECTS |
|-------------|--------------------------------------|----------|--------|----------|-----|--------|------|
| INF443      | Distributed Systems and Applications | 7        | 4      | 0        | 0   | 4      | 6    |

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|------------------------|---------------|
| Prerequisites          | INF103-INF223 |
| Admission Requirements | INF103-INF223 |

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| Language of Instruction | French   |
| Course Type             | Compulsory   |
| Course Level            | Bachelor Degree  |
| Objective               | This course restructures the notions that have been studied in operating system course for expanding them in distributed systems architectures. The course focuses on theoretical aspects of computer architectures, low level software architectures, distributed systems and its applications. Java RMI and CORBA platforms are specifically centered. Practical Laboratory part of the course presents Java concepts related to distributed applications (synchronization, serialization, network, etc.). Then Java RMI and CORBA are introduced and applied. |
| Content                 | Week 1. Introduction<br>Week 2. Hardware Architecture<br>Week 3. Software Architecture<br>Week 4. Interaction Models<br>Week 5. Network Protocols<br>Week 6. Message-oriented communication<br>Week 7. Remote Procedure Call<br>Week 8. Remote Method Invocation<br>Week 9. Standard services of a distributed system<br>Week 10. Introduction to Java RMI<br>Week 11. Description Java RMI<br>Week 12. Introduction to CORBA<br>Week 13. Description of CORBA<br>Week 14. Conclusion and outlook  |
| References              | <ul style="list-style-type: none"><li>• Distributed Systems: Concepts and Design, 4th edition, George Coulouris et al, Addison Wesley, 2006.</li><li>• Distributed Systems - Principles and Paradigms, 1st edition, Andrew S.Tanenbaum &amp; Maarten van Steen, Prentice Hall, 2002.</li><li>• Core Java2 vol.1: Fundamentals, 7th edition, Cay S.Horstmann &amp; Gary Cornell, Prentice Hall, 2005.</li><li>• Core Java2 vol.2: Advanced Features, 7th edition, Cay S.Horstmann &amp; Gary Cornell, Prentice Hall, 2005.</li></ul>                              |

## Theory Topics

| Week | Weekly Contents |
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