



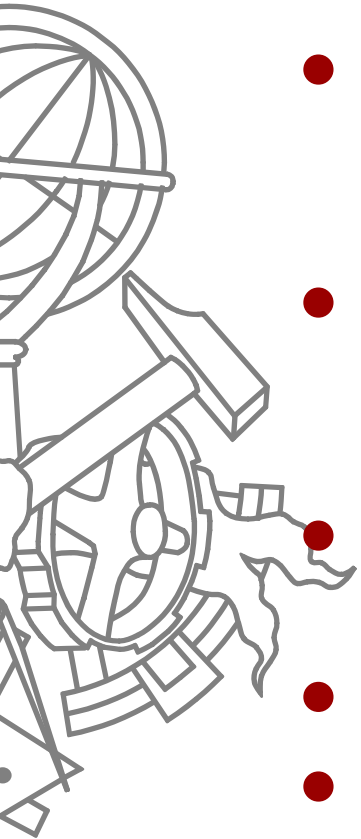
Programação de Sistemas Distribuídos

Paulo Gandra de Sousa
psousa@dei.isep.ipp.pt

Mestrado em Engenharia Informática
DEI/ISEP

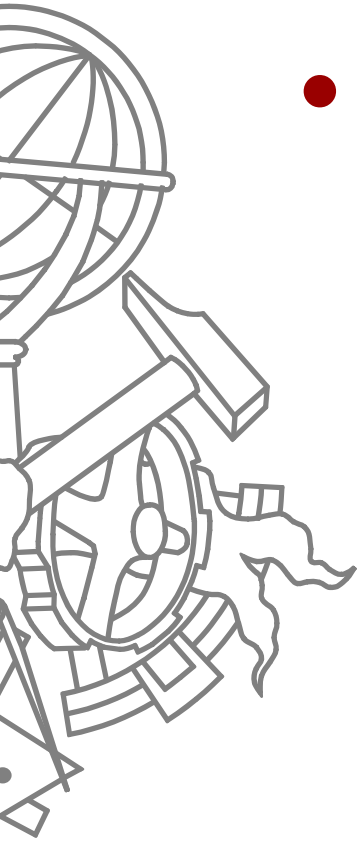
Objectives

- Learn what a distributed system (DS) is, what benefits do they bring and what problems do they generate
- Understand service oriented architectures (SOA) and the importance of the service contract
- Select and use design patterns for distributed systems and SOA
- Understand common anti-patterns
- Place DS and SOA in the real world
- Design business oriented service contracts



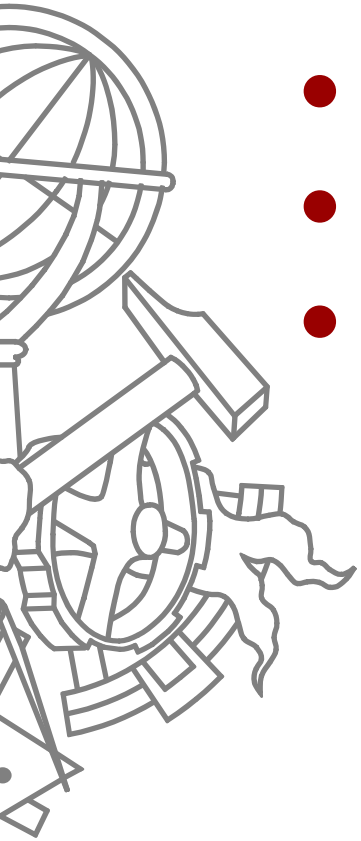
Course materials

- Available thru Moodle portal @ <https://moodle.isep.ipp.pt>



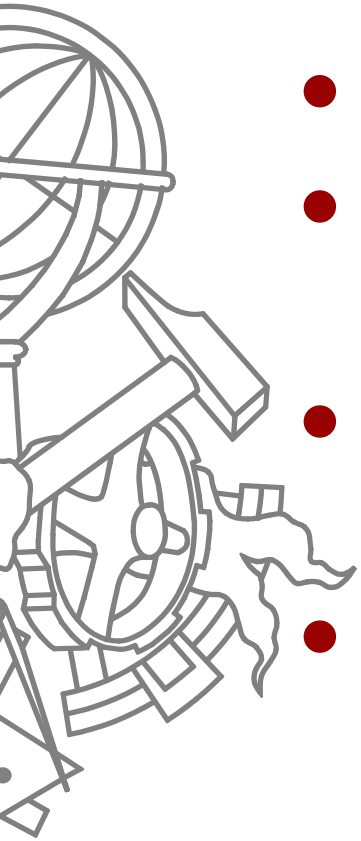
Classes

- T = theory
- OT = tutoring
- PL = laboratory



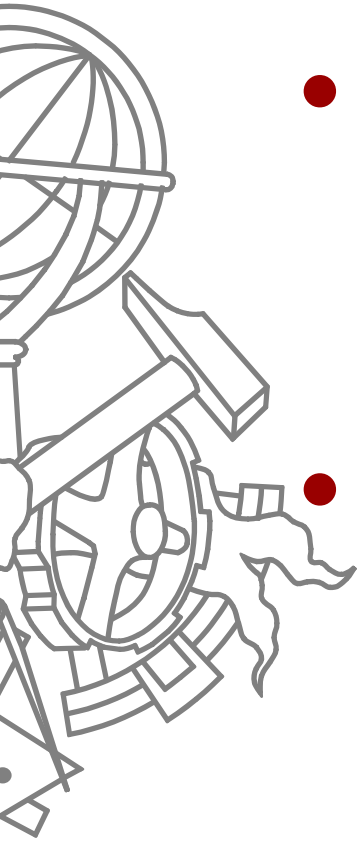
T

- Expositive
- Case studies
 - invited talks to be confirmed
- Group work
 - Design of a service oriented system
- Group presentations
 - Discussion sessions about specific (advanced) topics



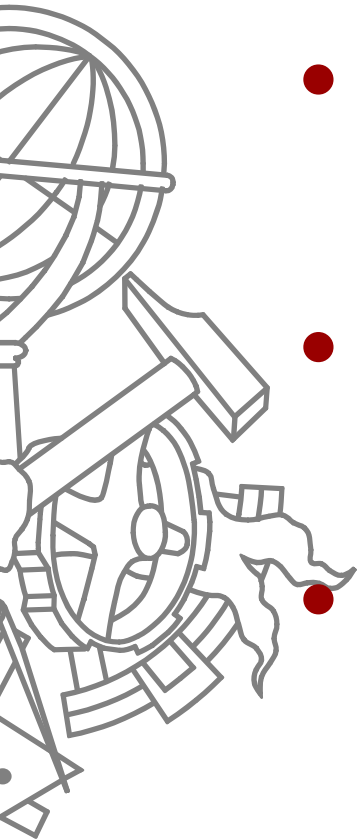
OT

- Advise on
 - the subject being pursued for group presentations
 - the lab work
- General advise on the subjects being taught



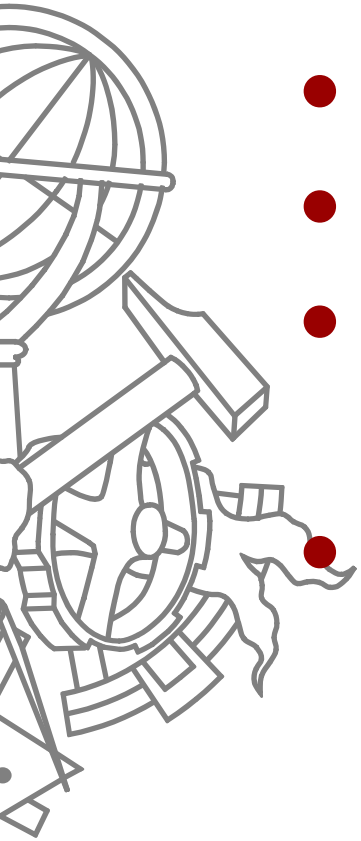
PL

- Tutorials on specific technologies
 - Java Web Services using Sun App Server
 - .Net Web Services using ASP.net / WCF
- Case study
 - WS-I sample app implementation from Sun and Microsoft
- Lab work
 - Groups of XX students (to be defined)
 - Partially done during class time
 - Presented at last semester week (tentative)



Assessment

- $\text{NFREQ} = 30\% * \text{pres.} + 70\% * \text{Lab}$
- PE = written exam
- $\text{NF} = 60\% * \text{NFREQ} + 40\% * \text{PE}$
- Min. 10 points for PE and NFREQ



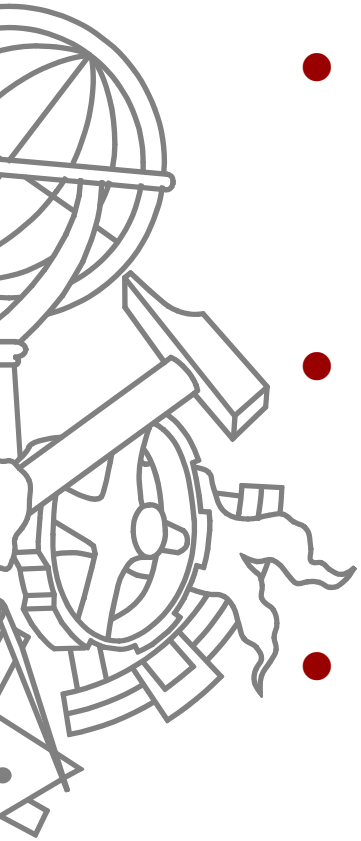
Bibliography

- No text book
- Each lesson will have its own bibliography and list of suggested readings



Suggested readings

- Tanenbaum, A. And Van Steen, M. (2007) **Distributed Systems: Principles and Paradigms**. Pearson Education
- Coulouris, G.; Dollimore, J. And Kinberg, K. (2005) **Distributed Systems: Concepts and Design**. Addison-Wesley/Pearson Education.
- Buschmann, F.; Henney, K. And Schmidt, D. (2007) **Pattern-Oriented Software Architecture: A Pattern Language for Distributed Computing, Volume 4**. Willey.



Suggested readings

- Microsoft (2007). **SOA in the real world.** <http://www.microsoft.com/downloads/details.aspx?FamilyID=cb2a8e49-bb3b-49b6-b296-a2dfbbe042d8&displaylang=en>
- Hohpe, G. And Woolf, B. (2004) **Enterprise Integration Patterns: Designing, Building, and Deploying Messaging Solutions.** Addison-Wesley, ISBN 0321200683.

