

Confiabilidade de Sistemas Distribuídos Dependable Distributed Systems

DI-FCT-UNL, Henrique Domingos, Nuno Preguiça

Lect. 1a Course Overview

2015/2016, 2nd SEM

MIEI

Mestrado Integrado em Engenharia Informática

Lectures/Labs

– Nuno Preguiça

- asc.di.fct.unl.pt/~nmp

– Henrique Domingos

- asc.di.fct.un.pt/~hj

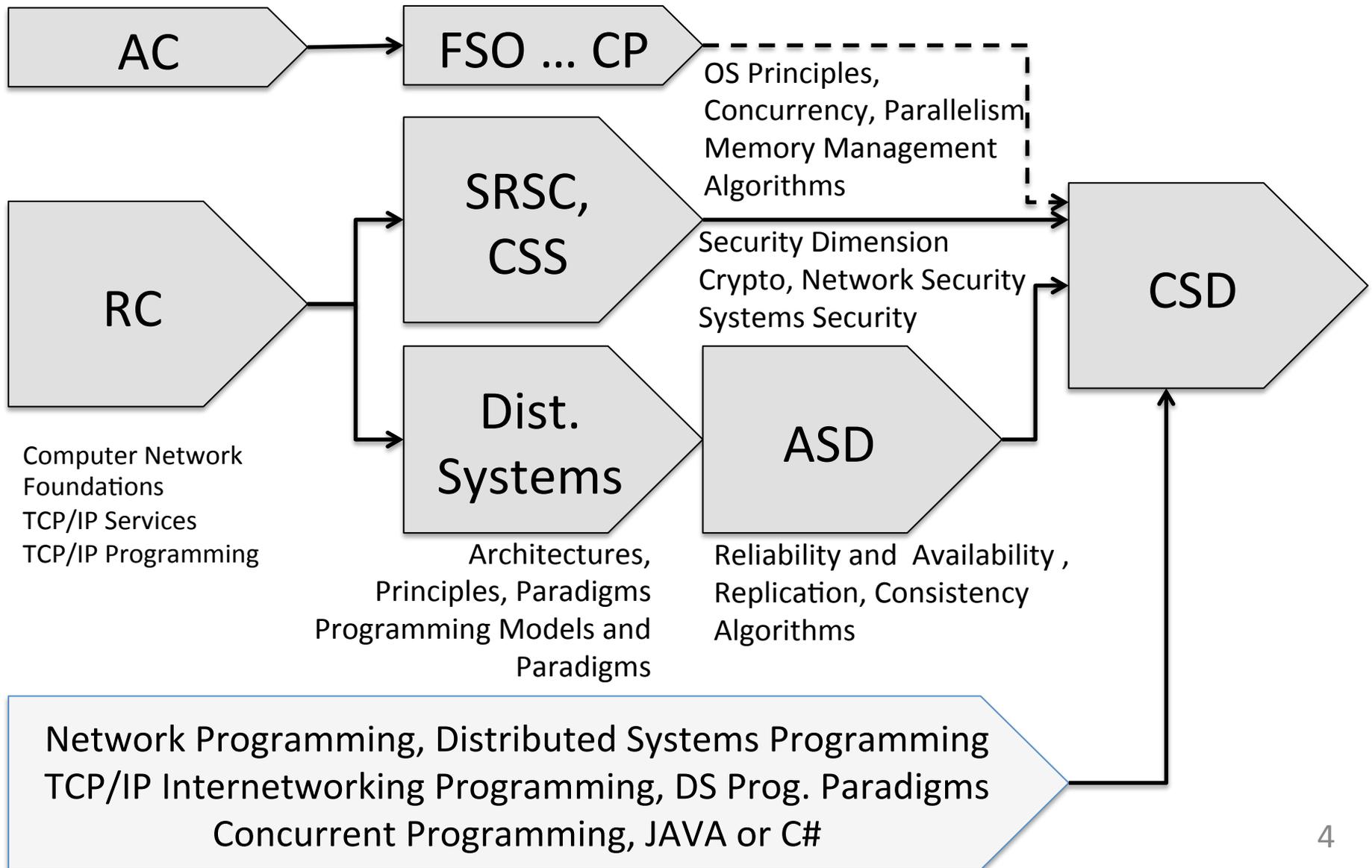
– See contacts / slots in the CLIP System

– Other Refs: NOVA LINCS Research Center

Course References / Generic Doc.

– See CLIP System (Course #11555)

Precedences, Requisites



Program Topics

- Introduction, DS Dependability Concepts
- Fault Tolerance and Intrusion Tolerance
- Replication Techniques, Consensus, SMR BFT/PBFT, Randomization
- Intrusion Detection, Prevention and Recovery; Pro-Active Recovering
- Advanced/Complementary Cryptographic Tools
- TLS vs IPsec vs. Wireless Security
- Availability / DoS, DDoS, DRADoS, DDoSaaS Protection
- Trusted Computing / TCMs and TPMs
- Dependable Cloud-Storage and Computing
- Privacy-Enhanced Encrypted Computations

Lectures/Labs

- Lectures
 - 1 Lecture, 2 h / week
- Labs / Work-Assignment / Evaluation Projects
 - 1 Lab Slot, 2 h / week
 - Focus:
 - Presentation of Work-Assignments / Projects
 - Introduction, Requirements, Initial Guidelines
 - 2 Evaluation Projects
 - Project Development / Discussion, Clarifications
 - Evaluation: Presentation, Demo, Discussion

Schedule

2 ^a F	3 ^a F	4 ^a F	5 ^a F	6 ^a F
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09h-11h

Lect.
127-II

11h-13h

Lab Slot
Lab 124-II

Plan / Topics

See the Initial Plan
(CLIP Document)

Roadmap

Bibliography / References

- See Bibliography (CLIP Material)
- Selected Topics / Papers + Book Chapters
 - Readings suggested for each Lecture
- Slides: CLIP

- For each MIDTERM TEST:
 - Open Book / READINGS for Evaluation: BOOK Chapters + Selected Papers
 - Closed Book / Specific READINGS
 - Test-Type for Self-Evaluation

Assessment (1)

- 2 x tests: TT1 (25%) + TT2 (25%) or Appeal (50%)
 - Covering Theoretical Topics / Lectures and Suggested Readings
 - Min. Score: 8/20 in each test
 - Tests with two parts: Closed Book + Open Book
 - Typically (ref): 2h30, 1h (CB) + 1h30 (OB)
 - Type-Tests for Auto-Study/Evaluation / Try Yourself
 - Ref: Until 1 week before the Evaluation Tests
- FE: 2 x MIDTERM Frequency Elements (50%)
 - See details next ...

Assessment (2)

- 2 x Frequency Elements
 - F1 (20%)
 - Mini Project – MP1 (15 %)
 - Practical Test 1 – PT1 (with TT1): (5 %)
 - F2 (30%)
 - Final Project (30 %)

Assessment (Summary)

- TT1 (20%)
- TT2 (30%)
- F1 (20%)
 - MProj (15%)
 - PTest (5%)
- F2 (30 %)
 - Proj
 - Demo
 - Presentation
 - Discussion
- To access TT2
 - TT1 min $\geq 8/20$
 - F1 min $\geq 8/20$ (2/5)
- To go to APPEAL
 - F1 min $\geq 8/20$ (2/5)
 - F2 min $\geq 8/20$ (2/5)

Grade Conditions

- $TT1 \geq 8/20$ AND $TT2 \geq 8/20$
- $(TT1 + TT2)/2 = 9,5/20$
- OR APPEAL $\geq 9,5/20$

- $F1 \geq 8/20$ AND $F2 \geq 8,5/20$
- $(F1 + F2)/2 \geq 9,5/20$

Flexibility / Milestones and Deliverable Dates (F1, F2)

- 3 Additional Days after the Freq. Ref. Dates
 - For possible unexpected situations (internet problems, traffic problems, transport strikes, FCT closing, other just. reasons., ...)
 - No more postponements allowed
 - The 3 days can be used by each group for F1-TP1 and F2-TP2
 - Each additional 1 day delay: penalty of 3/20 points

Evaluation Dates (indicative, proposal)

Final Dates (to be confirmed: CPed.)

- TT1: 9/April (sat) or 13/April (wed)
- F1-TP*: Deadline MP: 6/April (wed), 24h00
- TT2: 1/Jun (wed) or 4/Jun (sat)
- F2-TP*: Deadline: 30/May (mon), 24h00
- Final Evaluation: 6 - 16 / Jun

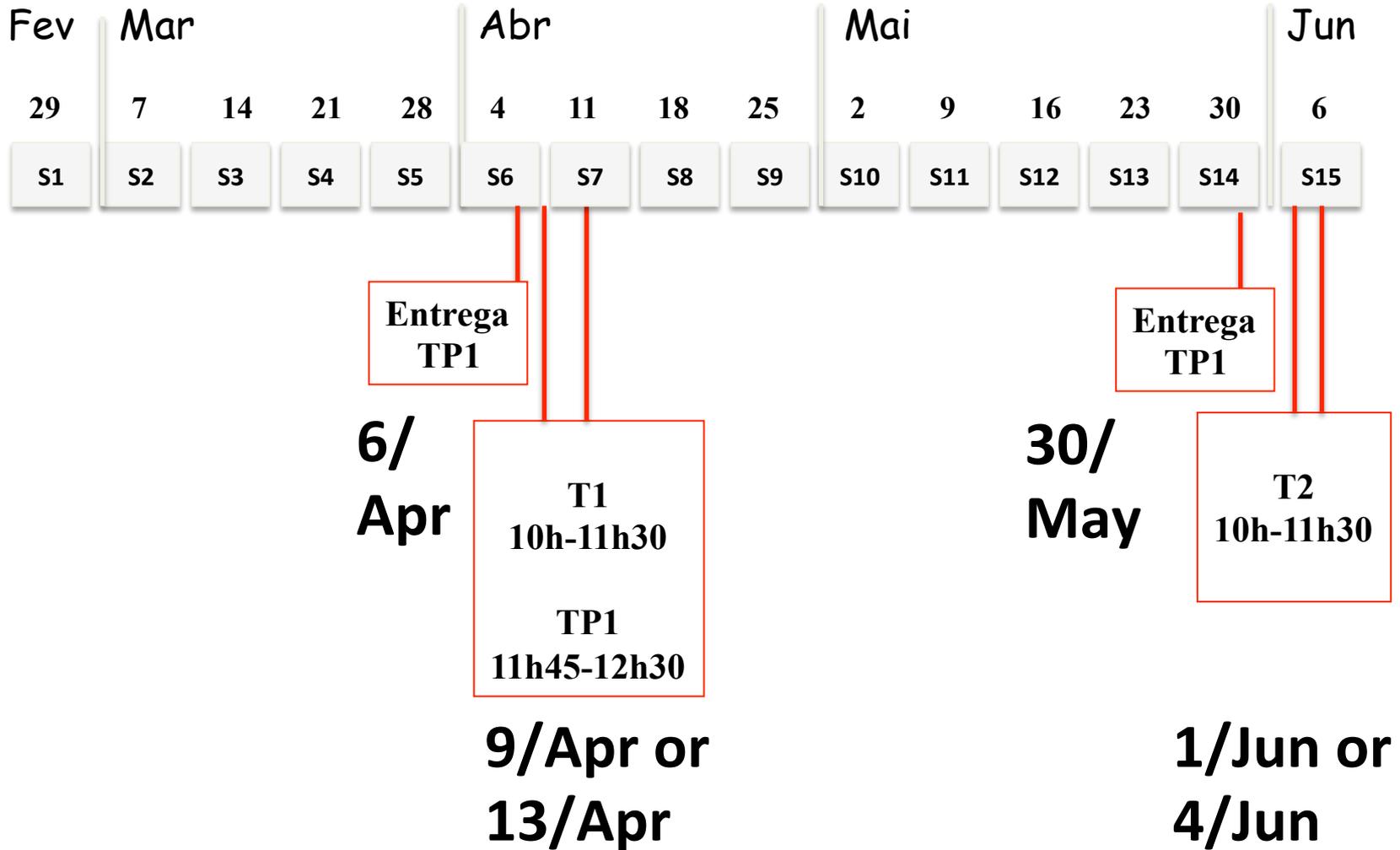
*) Deliverables and instructions for delivering defined in the Project Requirements.

Materials: SW Package Submission, DEMO, Presentation and Discussion (with each group)

Evaluations (Tests)

- **T1 + TP1 (together, same day)**
 - Ex., Sat, T1: 9h30-11h30, TP1: 11h30-12h30
 - Ex., Wed, T1: 14h30-16h30, TP1: 16h30-17h30
- **T2 (only theoretical test)**
 - Ex., Sat, T2: 9h30-12h00
 - Ex., Wed, TP2: 14h30-17h00

Dates



Work groups (for FE)

- Group registration until: 9/Mar (class)
 - Registration (FORM): => Secretary
- Expected: ~8/9 groups
- Group-size: 2 or 3 members

- Open Issues for Frequency Projects
 - F1 Project – Common Root (for all groups) Possible Specific Variants by each group
 - Highlights, Originality, Completeness, Exp. Assessment
 - Extended Group Specifications from the Mandatory SPecification
 - F2 Project – Different Topics (ex., ~3/4 Topics), 2/3 Groups/Topic, possible variants

Bibliography

- Book-Chapters
- Papers / Reports

- Materials in the CLIP System
- Suggested in each Lecture
 - As SUGGESTED READINGS !