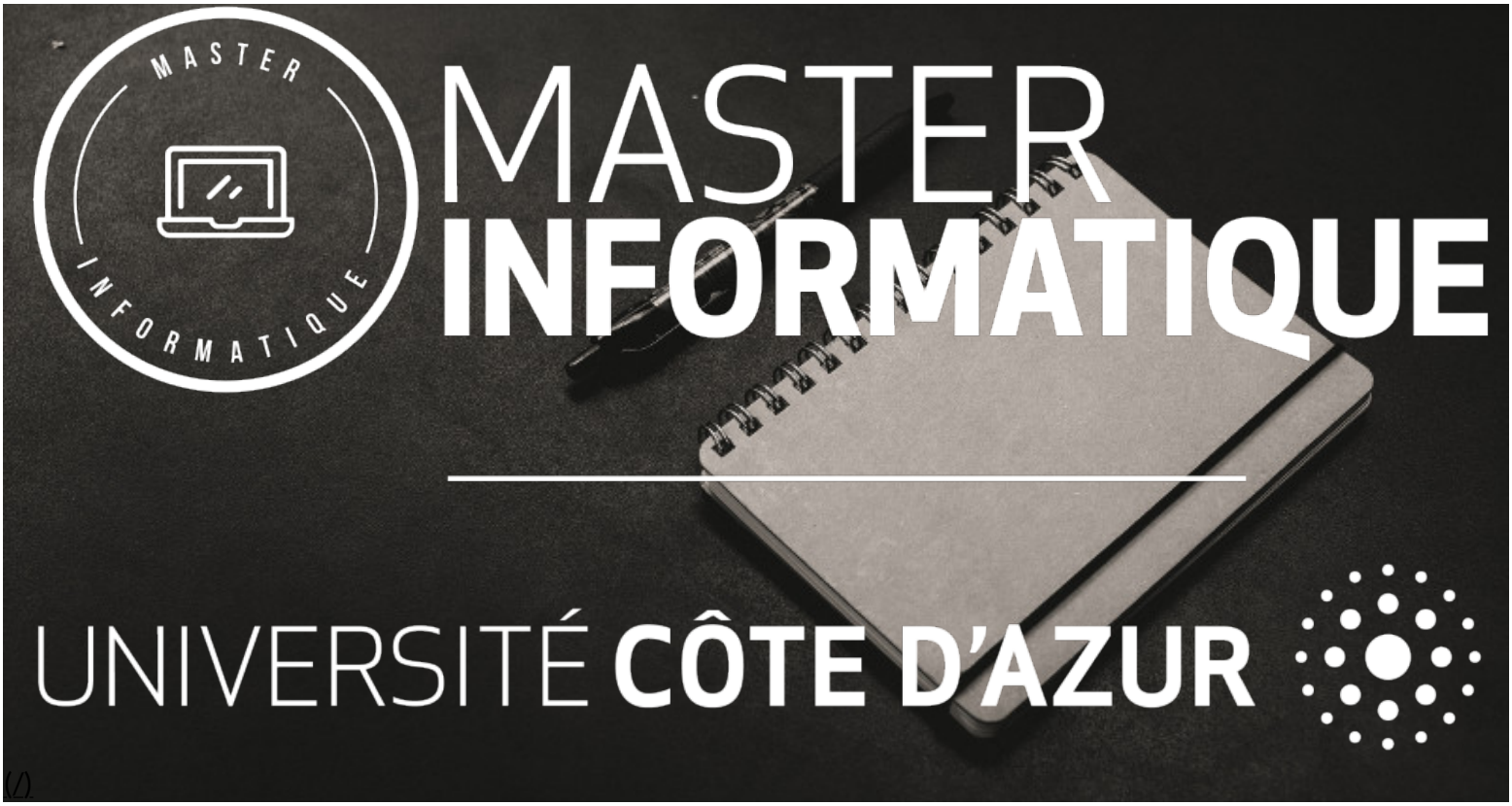

(/)

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C. BARAKAT

Computer networks

This course aims to present the architecture of the computer networks from a protocol perspective.

S1 ✓ 3 ECTS 24h OPT EN Site web (http://www.i3s.unice.fr/~raparicio/teaching/compNetw/) chadi.barakat@inria.fr (mailto:chadi.barakat@inria.fr)

First, networking basics are introduced, paying a special attention to how network services are organize in layers and how these services are implemented by standardized protocols. Then, the different layers in the protocol stack are explored following a top--down approach. Finally, at each layer main protocols, algorithms and mechanisms are detailed.

Lectures

Part 1:

- Session 1. INTRODUCTION / APPLICATIONS LAYER.
  - Packet switching, performance (delay, throughput, ...), protocol stack (layers) -- Services Application layer.
- Session 2. APPLICATIONS LAYER.
  - Protocols DNS, HTTP, FTP, email.
- Session 3. TRANSPORT LAYER PRESENTATION.
  - UDP and TCP protocols, Sockets.
- Session 4. TRANSPORT LAYER ALGORITHMS & MECHANISMS (TCP).
  - Congestion control, TCP throughput, TCP fairness.

Part 2:

- Session 5. NETWORK LAYER PRESENTATION.
  - Services (addressing, routing, fragmentation), IP Protocol.
- Session 6. NETWORK LAYER ALGORITHMS & MECHANISMS.
  - NAT, routing algorithms (inter AS, intra AS).
- Session 7. LINK LAYER PRESENTATION.
  - Services, Ethernet Protocol, MAC addresses, hub vs switch vs router.
- Session 8. LINK LAYER ALGORITHMS & MECHANISMS
  - MAC (Aloha, CSMA--CD), IEEE 802.11.

Teaching materials

- Access only granted by password: http://www.i3s.unice.fr/~raparicio/teaching/compNetw/

Bibliography

- Computer Networking: A Top Down Approach, 6th edition, Jim Kurose, Keith Ross, Addison- Wesley March 2012

Evaluation

- 2-hour written exam: 60% (French Univ. jargon: CT, Contrôle Terminal écrit de 2h)
- 1 Labs mark: 40% (French Univ. jargon: CC, une note de Contrôle Continue)

Retake

- ONLY 2-hour written exam (French Univ. jargon: 2nd session = examen écrit de 2h)

Lecturers

- Ramon Aparicio Pardo (Module coordinator): http://www.i3s.unice.fr/~raparicio/
- Chadi Barakat : https://team.inria.fr/diana/team-members/chadi/

À PROPOS

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