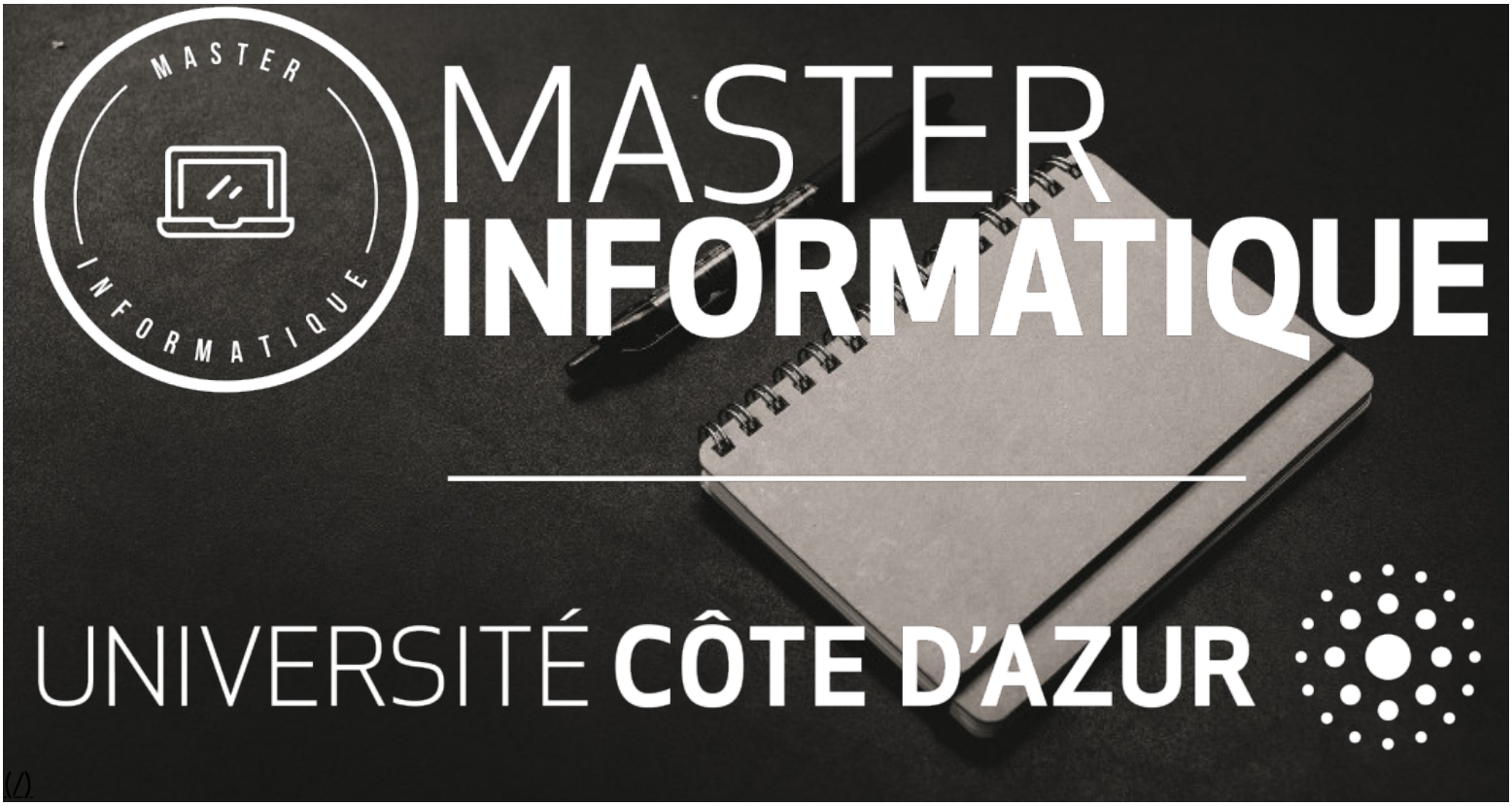

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(https://unsplash.com/)

R. APARICIO-PARDO

Internet of the future

This course is not available in 2020-2021.

This course aims to present the most recent trends, technologies and protocols deployed in Internet nowadays.

S2 ✓ 3 ECTS 24h OPT EN Site web (http://www.i3s.unice.fr/~raparicio/teaching/IoF/) ramon.aparicio-pardo@univ-cotedazur.fr (mailto:ramon.aparicio-pardo@univ-cotedazur.fr)

Classical networking paradigms and architectures are becoming outdated very quickly because of the evolution of users' habits and technological development. Thus, this course aims to bridge the gap between the basics presented in a classical " Introduction to Networking " course and the novel technologies and protocols deployed in Internet nowadays.

A previous background on networking basics is expected to follow the course. Students not fulfilling such requirement are strongly recommended to follow the course "Computer Networks" in the 1st semester.

Part 1: Ramon Aparicio

- Session 1. INTRODUCTION
  - Presentation of new technologies, paradigms and protocols.
- Session 2. NETWORK SOFTWARISATION: SDN & NFV
  - SDN/NFV paradigm vs traditional network control based on material architecture.
- Session 3. CONTENT DISTRIBUTION NETWORKS (CDN)
  - Content Distribution Networks (CDN) vs traditional ISP reactive caching
- Session 4. VIDEO STREAMING
  - Progressive video streaming, adaptive video streaming, DASH

Part 2: Chadi Barakat

- Session 5. REAL TIME I
  - UDP and real time, delay and jitter control
- Session 6. REAL TIME II
  - Loss and rate control, RTP/RTCP
- Session 7. INTERNET MOBILITY
  - Host Mobility and Fixed Network, Mobile IP
- Session 8. WIRELESS MOBILITY
  - Host and Router Mobility, Ad hoc routing

Teaching materials

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

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)

- 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/

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NAV

(https://ds4h.univ-cotedazur.fr)

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(https://univ-cotedazur.fr)

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