

# UE Advanced networking



Level  
Baccalauréat  
+5



ECTS  
6 credits



Component  
UFR IM2AG  
(informatique,  
mathématiques  
et  
mathématiques  
appliquées)



Semester  
Automne

- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** GBX9MO58

## Presentation

### Description

The purpose of the lecture is to give you more knowledge and skills in the domain of computer networking. Both theoretical and practical knowledge will be acquired.

Content:

1. Routing:
  - at Layer 2 - Spanning Tree Protocol
  - internal routing (RIP, OSPF)
  - external routing (BGP)
2. Congestion control:
  - fairness
  - AIMD algorithm
  - TCP variants (Reno, Cubic, BBR)
3. Quality of Service:
  - token bucket, scheduling
  - MPLS
4. Case study

- Next Generation Data Center Architecture

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## Course parts

Lectures	Lectures (CM)	36h
Practical work	Practical work (TP)	18h

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## Recommended prerequisites

Students should have taken the basic computer networking course.

- Routing (RIP, OSPF, BGP) - Congestion control - Quality of service - MPLS - SNMP - Case study Next Generation Data Center Architecture

**Period :** Semester 9

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## Skills

The lecture is a follow-up of the basic computer networking course and provides a more detailed view on routing protocols, congestion control, and Quality of Service. Lab exercises and manipulations will provide some practical knowledge of advanced protocols.

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## Useful info

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### Contacts

Program director

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Program director

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## Campus

➤ [Grenoble - University campus](#)