

# UE Advanced networking



Niveau d'étude  
Bac +5



ECTS  
6 crédits



Crédits ECTS  
Echange  
6.0



Composante  
UFR IM2AG  
(informatique,  
mathématiques  
et  
mathématiques  
appliquées)



Période de  
l'année  
Automne (sept.  
à dec./janv.)

- > **Langue(s) d'enseignement:** Anglais
- > **Ouvert aux étudiants en échange:** Oui
- > **Crédits ECTS Echange:** 6.0
- > **Code d'export Apogée:** GBX9MO58

## Présentation

### 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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## Heures d'enseignement

CM	CM	36h
TP	TP	18h

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## Pré-requis recommandés

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

**Période :** Semestre 9

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## Compétences visées

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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## Infos pratiques

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### Contacts

Responsable pédagogique

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Responsable pédagogique

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## Campus

› Grenoble - Domaine universitaire