

UE Network and embedded applications



Composante
UFR Physique,
Ingénierie,
Terre,
Environnement,
Mécanique
(PhITEM)



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

Diplômes intégrant cet élément

- Master Electronique, énergie électrique, automatique

- Langue(s) d'enseignement: Anglais
- Ouvert aux étudiants en échange: Oui
- Code d'export Apogée: PAX9SCAM

Présentation

Description

Security of Network and Applications offers a comprehensive and practice-oriented introduction to the foundations of cybersecurity. The course equips students with the theoretical, organizational and technical principles needed to secure modern digital infrastructures, covering topics such as error detection, firewall technologies, secure network architectures, cryptography, VPNs and antivirus strategies. Students learn how to design and implement effective security policies, assess risks, and understand attack mechanisms, while also gaining insight into safe and dependable network design for critical applications. Hands-on labs on firewalls, wireless security and cryptographic communication reinforce the course's applied focus, preparing students to address real-world cybersecurity challenges with confidence.

Embedded applications are considered with a fast, practical introduction to **LabVIEW**, equipping students with the skills to design, implement, and deploy powerful data-driven applications. Through guided practice, you will learn to acquire, process, and visualize data; manipulate key data structures; and harness LabVIEW's extensive libraries for mathematical and complex signal analysis.

The course also provides an accessible path into embedded systems, including real-time and FPGA programming, giving you the ability to build robust, interconnected systems and manage data exchange across multiple devices. Perfect for students eager to master an industry-standard tool used in modern instrumentation and automation.

Heures d'enseignement

CM	CM	31,5h
TP	TP	22h

Période : Semestre 9

Bibliographie

Reference textbooks :

- S. Ghernaoui-Hélié, "Sécurité informatique et réseaux", Dunod, 2005.
- J. Steinberg & T. Speed, "SSL VPN, Understanding, evaluating and planning secure, web-based remote access", 2005.
- F. Halsall, "Computer networking and the internet", Addison Welseley, 2005.

Infos pratiques

Lieu(x) ville

➤ Grenoble

Campus

➤ Grenoble - Polygone scientifique