

IDENTIFICATION

Course code : SR901
ECTS : 3

DURATION

Lectures : 8
Tutorial classes : 8
Labs : 8
Total : 24

Project :
Personnal work :

ASSESSMENT

A knowledge assessment, a lab report, an oral presentation.

TEACHING MATERIALS

Slides and practical work sheets.

LANGUAGE

English

CONTACT

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Modifié le : 14 juillet 2026

UE : UE9-Ressources

COURSE : Culture DevOps : Continuous Improvement and Collaboration

SCOPE OF THE COURSE

OBJECTIVES

The aim of this course is to provide an overview of infrastructureless networks, suitable algorithms, their properties, and application cases for which these networks are relevant. For the various application domains, it also aims to contextualize the properties of infrastructure-based networks and enable the engineer to select the appropriate method and justify these choices through performance evaluation.

COMPETENCE AND SKILLS

- Design secure infrastructures and service solutions tailored for connected objects (1.5)-(1.4)
- Implement an end-to-end IoT solution by identifying fixed and mobile architectures, the network of terminal objects, remote management of objects, and communication with an IoT service platform (1.5)-(1.4)

PROGRAM

- Differences in constraints and properties between infrastructure-based and infrastructure-less networks ;
- Notion of mobility in networks ;
- Ad hoc networks and MANETs : MESH networks, MANETs, DTN, SPANs, tactical networks ;
- VANETs and comparison with current trends in 5G ;
- Infrastructure-less sensor networks and comparison with current trends in IoT, particularly in 5G ;
- Performance evaluation through modeling and simulation.

BIBLIOGRAPHY

REQUIREMENTS