

Academic Year/course: 2020/21

30351 - Network Management

Syllabus Information

Academic Year: 2020/21

Subject: 30351 - Network Management

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 438 - Bachelor's Degree in Telecommunications Technology and Services Engineering

ECTS: 6.0

Year: 3 and 4

Semester: Second semester

Subject Type: ---

Module: ---

1. General information

1.1. Aims of the course

1.2. Context and importance of this course in the degree

1.3. Recommendations to take this course

2. Learning goals

2.1. Competences

2.2. Learning goals

2.3. Importance of learning goals

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology to be used to achieve the proposed learning results are as follows:

- **Participative Lectures (22 hours).** Presentation by the teacher of the main contents of the subject, combined with the active participation of students. This methodology, supported by the student personal work (M14) is designed to provide them with the theoretical bases of the subject content.
- **Laboratory sessions (38hours).**The students will have practice sessions for 2 hours each week. The work will be carried out individually.
- **Guided assignments (10 hours).** This non-face-to-face activity will allow advancement in all learning outcomes proposed in the topic of network management. There will be follow-up sessions by the teacher in which each student will present the work done.
- **Tutoring.** Time for personalized attention to students with the aim of reviewing and discussing the materials and topics presented in both theoretical and practical classes.
- **Evaluation (4 hours).** Set of theoretical tests and/or reporting practices used for the evaluation of student progress. We can find more details in the section of evaluation activities

4.2. Learning tasks

As described in the methodological presentation, the activities are divided into

Lectures (22 hours)

Laboratory practice (38 hours) in which students can handle (and program in Python) network management related software that resolves management scenarios by means of applying the knowledge acquired in lecture sessions.

In addition, there are 10 hours of guided assignments to deepen in topics related to network management applications.

4.3. Syllabus

The program offered to the students to cope with the learning results encompasses the following activities

Theoretical sessions whose main content is organized in the following units:

- Block A. Introduction
 - A.1 Global vision and introduction
 - A.2 Standards and fundamental models
- Block B. SNMP based Management
 - B.1 ASN.1 Language
 - B.2. SNMPv1 architecture
 - B.3 SNMPv2 architecture
 - B.4 Remote Monitoring (RMON)
- Block C. NETCONF based Management
 - C.1 Introduction to NETCONF
 - C.2 Introduction to XML
 - C3 NETCONF
 - C4 YANG Data Modelling Language

Laboratory sessions that aim to develop the techniques explained in the theoretical sessions. Laboratory classes are organized into 19 sessions of 2 hours per session. Students will prepare a pre-class study when necessary. At the end of the session, the student will be questioned about the practice in order to demonstrate the acquired skills during the practical sessions.

4.4. Course planning and calendar

The Schedules sessions and work presentations

The timing of the subject will be defined by the center in the academic calendar of the corresponding course.

4.5. Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=30351&year=2019