Internet contents distribution

Academic Year: (2023 / 2024)　　　　　　　　　　　　　　　　　　**Review date:** 17-10-2023

Department assigned to the subject: Telematic Engineering Department

Coordinating teacher: CUEVAS RUMIN, ANGEL

Type: Compulsory　ECTS Credits : 3.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Computer Networks

OBJECTIVES

Basic Competences
That the students can apply the acquired knowledge and ability to solve problems in new or unfamiliar environments within broader contexts related to their field of study
That students are able to integrate knowledge and handle complexity of formulating judgments
That the students can communicate their conclusions and the knowledge and rationale underpinning to specialists and non-specialists in a clear and unambiguous way.
That students have the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.

Specific Competences
That the students will be able to understand the technologies and markets behind the data storage and delivery in the network.
That the students will be able to understand the technical concepts related to delivery networks architecture, information centric networks architecture and network storage
That the students will be able to identify limitations and design new technical solutions to improve delivery networks performance
That the students have a wider look to market size, competitors and sources of revenue.

DESCRIPTION OF CONTENTS: PROGRAMME

Chapter 0. Introduction
Chapter 1. Introduction to Networking for Content Delivery
Chapter 2. Evolution of CDN Architectures
Chapter 3. Evolution of CDN Ecosystem
Chapter 4. Content distribution in p2p networks
Chapter 5. Content distribution in the online advertising ecosystem
Chapter 6. APIs for content distribution

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities
Theorical classes
Laboratory classes
Group assignments
Individual assignments

Methodology
Presentations in the class by the teacher with support of computer and audiovisual media, in which the main concepts of the subject are developed and the literature is provided to supplement student learning.
Critical reading of additional texts: Newspaper articles, reports, manuals and / or academic articles, either for further discussion in class, either to expand and consolidate the knowledge of the subject.
Resolution of practical cases, problems, etc. posed by the teacher individually or in group
Presentation and discussion in class of topics related to the content of the course, as well as case studies
Preparation of papers and reports individually or in group

ASSESSMENT SYSTEM
  Interim exams
  Lab assignments
  Final exam

% end-of-term-examination: 40

% of continuous assessment (assigments, laboratory, practicals…):   60

ADDITIONAL BIBLIOGRAPHY

  - Hau, T.; Burghardt, D.; and Brenner, W. Multihoming, Content Delivery Networks, and the Market for Internet Connectivity , -, -
  - S.V. Nagaraj Web Caching and Its Applications , -, -

  - S.V. Nagaraj Web Caching and Its Applications, Springer, 2004

BASIC ELECTRONIC RESOURCES

  - . Content Centric Networks: https://www.ccnx.org/

  - - . CDN Taxonomy: http://www.cloudbus.org/reports/CDN-Taxonomy.pdf

  - Van Jacobson . A new way to look at networking : https://www.youtube.com/watch?v=oCZMoY3q2uM