Materia 4_33: Telematics

Materia:	Telematics	ECTS:	10
Descriptores	• Networks, Switching, Protocols, Network Architecture, Application Protocols, Transport Functions, Network Functions, Shared Media Access. • Packet Switching, Data Networks, Addressing, Routing, Transport, Ports, Sockets, UDP Protocol, TCP Protocol, Routers, Gateways.		
Objetivos generales	This subject has the objective of introducing telematic engineering and more specifically packet switched networks and their architecture will be studied.		
Competencia específica	CE 4-33a: Knowledge and use of the concepts of network architecture, communication protocols and interfaces. CE 4-33b : Ability to differentiate the concepts of access and transport networks, circuit and packet switched networks, fixed and mobile networks, as well as distributed network systems and applications, voice, data, audio, video, interactive and multimedia services. CE 4-33c: Knowledge of network interconnection and routing methods, as well as the fundamentals of network planning and dimensioning.		
Resultados de aprendizaje	• Understand the concept of telematic systems architecture and protocol architecture. • Distinguish packet-switched networks and understand how they work. • Differentiate between systems based on the client-server model and the peer-to-peer model. • Use congestion, flow and error control protocols for the implementation of telematic systems. • Apply shared medium access techniques for the implementation of telematic systems. • Understand the four-layer conceptual model on which the TCP/IP protocol architecture is based. • Design an IP addressing scheme for a network and interpret IP routing tables and apply routing control algorithms. • Differentiate and apply UDP and TCP protocols appropriately. • Handle computer tools for network simulation, IP configuration and IP routing. • Study and analyse protocols using monitoring tools.		
Métodos de evaluación	• Evaluation: Written open-ended test and Problems • Assessment instruments: Checklists and Rating Scales		