Universidad Carlos III de Madrid
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DENOMINACIÓN ASIGNATURA: Switching		
GRADO: Telematics Engineering, Telecommunication Technologies Engineering, Communication Systems Engineering	CURSO: 4	CUATRIMESTRE: 2

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas. Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres.

PLANIFICACIÓN SEMANAL DE LA ASIGNATURA

SEMANA	SESIÓN	DESCRIPCIÓN DEL CONTENIDO DE LA SESIÓN	GRUPO (marcar X)		Indicar espacio distinto de aula (aula informática, audiovisual, etc.)	Indicar SI/NO es una sesión con 2 profesores	TRABAJO SEMANAL DEL ALUMNO		
			GRANDE	PEQUEÑO			DESCRIPCIÓN	HORAS PRESENCIALES	HORAS TRABAJO (Max. 7h semana)
1	1	Introduction. Switching Techniques. Concept of OBS		X		NO	Reading of class notes.	1,66	
1	2	**Packet Switches**. Types and architectures. Flow of packets withing a router. Slow vs Fast Path. Memory management. Network processing hardware.	X			NO	Review of class lecture. Reading of next class material.	1,66	
2	3	**Packet Switches**. Types of switching fabrics. HOL. Control. Exercises		X		NO	Review of class lecture. Prepare exercises.	1,66	

2	4	**Packet switches**. Route Lookup	X			NO	Review of class lecture. Reading of next class material.	1,66	
3	5	**Packet switches**. Review. Exercises		X		NO	Review of class lecture. Prepare exercises.	1,66	
3	6	**Qos in packet switching**. Introduction. Classification. Scheduling algorithms. Concepto f Max-Min Fair sharing. GPS, WFQ, DRR.	X			NO	Review of class lecture. Reading of next class material.	1,66	
4	7	**Qos in packet switching**. Exercises. QoS		X		NO	Review of class lecture. Prepare exercises.	1,66	
4	8	**QoS in packet switching**. Review. Traffic models and shapers: Leaky Bucket, Token Bucket.	X			NO	Review of class lecture. Reading of next class material.	1,66	
5	9	**Qos in IP:** Diffserv vs Intserv.	X			NO	Review of class lecture. Reading of next class material.	1,66	
5	10	**Exercises on QoS.** Part 1 Exam.		X		NO	Review of class lecture. Prepare exercises.	1,66	
6	11	**MPLS**. Introduction to label switching and MPLS. Architecture and principles	X			NO	Review of class lecture. Reading of next class material.	1,66	
6	12	**MPLS**. Review. Exercises.		X		NO	Review of class lecture. Prepare exercises.	1,66	
7	13	**MPLS**. Forwarding. Control.	X			NO	Review of class lecture. Reading of next class material.	1,66	
7	14	**MPLS.** Problems		X		NO	Review of class lecture. Prepare exercises.	1,66	
8	15	**MPLS**. Applications: Traffic Engineering, Fast Re-route, VPN.	X			NO	Review of class lecture. Reading of next class material.	1,66	

8	16	**Lab session 1: MPLS**		X	LAB 4.1B01, 4.1B02	YES	Reading and comprehension of Lab document. Preparation.	1,66	
9	17	**Interconnection networks**. Basic concepts. Equivalences. Crossbars. Multi-stage networks.	X			NO	Review of class lecture. Reading of next class material.	1,66	
9	18	**Interconnection networks**. Exercises. Part 2 Exam. Full connection rearrangeable networks		X		NO	Reading and comprehension of Lab document. Preparation.	1,66	
10	19	**Interconnection networks**. Partial connection networks . Banyan Networks. Sorting and Merging Networks.	X			NO	Review of class lecture. Reading of next class material.	1,66	
10	20	**Lab session 2: MPLS (II)**		X	LAB 4.1B01, 4.1B02	YES	Reading and comprehension of Lab document. Preparation.	1,66	
11	21	**Interconnection networks**. Partial connection rearreangable networks. Self-routed Re-arrangeable Networks: Batcher-Banyan.	X			NO	Review of class lecture. Reading of next class material.	1,66	
11	22	Interconnection networks. Exercises		X		NO	Reading and comprehension of Lab document. Preparation.	1,66	
12	23	**Circuit switching**. Introduction. Design of circuit switches. Erlang and Engset.	X			NO	Review of class lecture. Reading of next class material.	1,66	
12	24	Interconnection networks. Exercises		X		NO	Reading and comprehension of Lab document. Preparation.	1,66	
13	25	**Circuit switching**. Types of switches: space division, time division and hybrid TST y STS. TSSST.	X			NO	Review of class lecture. Reading of next class material.	1,66	
13	26	Presentation of Use Cases. Delivery (Lab)		X		YES	Use case preparation	1,66	
14	27	Presentation of Use Cases. Delivery (Lab)	X			YES	Use case preparation	1,66	
14	28	Make up and review session		X		NO	Review of class lecture.	1,66	
	29	**Lab session 3: MPLS (III) (timeslot 13-15 o 19-21)**		X	LAB 4.1B01, 4.1B02	YES	Reading and comprehension of Lab document. Preparation.	1,66	
							Subtotal 1	**48,33**	

		Total 1 *(Horas presenciales y de trabajo del alumno entre las semanas 1-14)*							
15		Recuperaciones, tutorías, entrega de trabajos, etc							
16		Preparation of assessment and assesment.						3	
17									
18									
							Subtotal 2	**3**	
		Total 2 *(Horas presenciales y de trabajo del alumno entre las semanas 15-18)*							
TOTAL *(Total 1 + Total 2. Máximo 180 horas)*									