Universidad Carlos III de Madrid
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COURSE: ACCESS NETWORKS AND SHARED MEDIA		
DEGREE: Bachelor in Audiovisual System Engineering	**YEAR: 2nd**	**TERM: 1st**

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	**Introduction to the course** Introduction to the Network Architecture layers: TCP Relevant concepts: Network, Protocol, interface	X				Access to the Aula Global 2 (moodle platform). Review of the Course Guide. Knowledge of the methodology to follow the course as well as the evaluation, weekly plan. Presentation of the student in the general forum available in the platform.	1,66	6.5
1	2	**ISDN/PSTN Operation**		X			Participation in the Chapter 1 forum. Study and review of Vardar's Chapter 2.	1,66	
2	3	**TCP/IP Architecture**	X				Identification of the network architecture for different network elements. Participation in the chapter 1 forum. Study and review of the Forouzan's Chapter 1 & 2.	1,66	6.5

2	4	**Commercial Building Telecommunication Cabling**		X		YES	Study and revision of Forouzan's Chapter 3 & 7. Review of main concepts related to chapter 2. Participation in the Chapter 2 forum. Develop of an optional work for dimensioning a CBTC Design of a complete network solution for SME or Large Company selected by the student, covering the different topics described in the course (Cabling System, Networking elements, etc).	1,66	
3	5	**Communications Interface** Physical Level. Examples: V.24 Transmission links	X					1,66	6.5
3	6	**Link Level** Objective Definitions Link level Functionality Link types Error Control		X			Study and review of Forouzan's chapter 10 & 11. Problems proposed in class. Participation in chapter 3 forum. Analysis of ARQ techniques including link error.	1,66	
4	7	**Link Level** Flow Control techniques based on ARQ (Without errors)	X				Study and review of Forouzan's chapter 11. Problems proposed in class. Participation in chapter 3 forum	1,66	6.5
4	8	**Link Level** Problems/Questions session. Emulation analysis		X		YES	Study and review of Forouzan's chapter 11. Qualitative analysis of ARQ	1,66	
5	9	**Link Level** Flow control techniques based on ARQ (with errors)	X				Study and review of Forouzan's chapter 11. Problems proposed in class on ARQ.	1,66	6.5
5	10	**Link Level** HDLC, PPP, SLIP Protocols		X			Study and review of Forouzan's chapter 11. Review of Link level protocols.	1,66	6.5
6	11	**Review of Link Level chapter: Q & A.**	X				Review of Problems proposed for Evaluation I	1,66	6.5
6	12	**Link Level** Review of Questions/Problems		X			Study and review of Forouzan's chapter 11. Analysis of HDLC protocol. Review of link level protocol functionality under different scenarios: unicast, multicast, etc.	1,66	
7	13	**Link Medium Access Techniques** Multiplexing concept. Reserve Techniques: TDM, TDMA	X				Study and review of Forouzan's chapter 6 (6.1) & 12. Collision avoidance and selection techniques.	1,66	6.5 6.5
7	14	**Evaluation I**		X			Global Review of Module 1, 2 & 3. Study and review of concepts of chapter 5.	1,66	6.5

8	15	**Link Medium Access Techniques** Collision Techniques: Aloha,. Slot Aloha, CSMA, CSMA/CD, CSMA/CA	X				Study and review of Forouzan's chapter 12. Qualitative analysis of Collision avoidance techniques. Problems and Questions proposed. Participation in chapter 4 forum.	1,66	6.5
8	16	**Link Medium Access Techniques** Collision Techniques examples		X			Study and review of Forouzan's chapter 12. Review of problems and Questions for evaluation I.	1,66	
9	17	**Link Medium Access Techniques** Selection Techniques: Token based	X				Global Review of Module 1, 2 & 3. Review of problems and Questions for evaluation I.	1,66	6.5
9	18	**Link Medium Access Techniques** Selection Techniques examples		X			Study and review of Forouzan's chapter 12. Review of problems and Questions proposed on access selection techniques.	1,66	
10	19	**Local Area Networks** Basic Concepts Architecture LLC MAC	X				Participation in chapter 5 forum. Study and review of Forouzan's chapter 12	1,66	6.5
10	20	**Local Area Networks** Ethernet (IEEE 802.3)		X	Lab	YES	Study and review of Forouzan's chapter 12. Ethernet technology review. CSMA/CD design principles. Participation in chapter 5 forum.	1,66	
11	21	**Local Area Networks** Internet Network Access review RTC/RDSI ADSL Cable Modem LAN WLAN: Wifi, 3G	X				Study and review of Forouzan's chapter 9 &14. Ethernet based problems. Review of Interconnection techniques focusing on learning bridges and source routing. Participation in chapter 6 forum.	1,66	6.5
11	22	**Interconnections** Physical Level: Repeaters and Hubs Link Level: Bridges & Switches		X			Study and review of Forouzan's chapter 15. Review of Problems proposed for Evaluation II. Analysis of VLAN development: implicit and explicit techniques.	1,66	
12	23	**Interconnections** Transparent Bridges Source Routing Bridges	X				Study and review of Forouzan's chapter 15. Review of Problems and Questions proposed for Evaluation II. Review of practical and theoretical concepts of chapter 5 and 6.	1,66	6.5
12	24	**Interconnections** Review of Questions/Problems		X			Study and review of Forouzan's chapter 15. Review of Problems and Questions proposed for Evaluation II.	1,66	
13	25	**Interconnections** Virtual LANs (IEEE 802.1q)	X				Study and review of Forouzan's chapter 15. Review of IEEE 802.1q standard.	1,66	6.5
13	26	**Review of Q&A Module 4**		X			Review of Problems and Questions proposed for Evaluation II.	1,66	

14	27	**Review of Q&A Module 4**	X				Review of Problems and Questions proposed for Evaluation II.	1,66	6.5
14	28	**Evaluation II**		X			Preparation of Global evaluation	1,66	
11	29	**Data Communication Laboratory**		X		YES	Ethernet analysis & Spanning Tree protocol evaluation	1,66	0
							Subtotal 1	**49**	**91**
							Total 1 *(Hours of class plus student homework hours between weeks 1-14)*	140	

15		Tutorials, handing in, etc						2	
16		Assessment						3	5
17									
18									
							Subtotal 2		
							Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	10	

TOTAL *(Total 1 + Total 2)*	**150**