Universidad Carlos III de Madrid

SUBJECT:
Cyber-security of networks and cyber-physical systems

MASTER DEGREE: Máster Universitario en Industria Conectada 4.0	ECTS: 3	QUARTER: 1

TIMETABLE FOR THE SUBJECT

WEEK	SESSION	DESCRIPTION OF EACH SESSION	GROUP (X mark)		Indicate if a different lecture room is needed (computer, audiovisual, etc.)	HOMEWORK PER WEEK		
			1	2		DESCRIPTION	ATTENDING HOURS	HOMEWORK Max. 7H/WEEK
1	1	Cryptography concepts: symetric key and public/private key encryption. Authentication.	X			Cryptography concepts. Corresponding unit of book and supplementary exercises	2 (50 + 50 minutes)	2
1	2	Cryptography concepts: symetric key and public/private key encryption. Authentication.	X			Authentication systems	2	2
2	3	Secure end-to-end transport protocols	X			TLS Corresponding unit of book and supplementary exercises	2	2
2	4	Secure end-to-end transport protocols	X			TLS second sesión	2	2
3	5	Cybersecurity threats in CI4.0: malware types. Structure, components and infection vectors.	X			Threats in CI 4.0 Corresponding unit of book and supplementary	2	2

							exercises		
3	6	Cybersecurity threats in CI4.0: malware types. Structure, components and infection vectors.	X				Threats second session	2	2
4	7	Techniques and technologies for mitigating threats: attacks and countermeasurements. Firewalls, IDS and SIEMs.	X				Countermeasurements. Corresponding unit of book and supplementary exercises	2	2
4	8	Techniques and technologies for mitigating threats: attacks and countermeasurements. Firewalls, IDS and SIEMs.	X				Countermeasurements second session.	2	2
5	9	Data protection in networked systems: security in IP. IPsec. VPNs.	X				IPsec Corresponding unit of book and supplementary exercises	2	2
5	10	Data protection in networked systems: security in IP. IPsec. VPNs.	X				VPNs Corresponding unit of book and supplementary exercises	2	2
6	11	Security in wireless communications.	X				session 1: WiFI Corresponding unit of book and supplementary exercises	2	2

6	12	Security in wireless communications.	X			session 2: IoT devices Corresponding unit of book and supplementary exercises	2	2
7	13	Additional session if required	X					
TOTAL HOURS							24	24