COURSE: Software Networks		
DEGREE: Telematics Engineering / Sound and Image Engineering / Telecommunications Technologies Engineering / Mobile and Space Communications Engineering	YEAR: 3rd/4th	TERM: 2nd

WEEKLY SCHEDULE OF THE COURSE

WEEK	SESSION	DESCRIPTION	GRUPS (mark with X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual classroom)	Indicate YES/NO if the session requires 2 teachers	WEEKLY WORK FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h per week)
1	1	**Part I: Introduction** • Presentation and introduction of the course. • Introduction to Software Networks.	X			No	- Review the concepts of session 1. - Read the documents associated to session 2 (**).	1,66	3,5h
2	2	**Part II: Virtualization** • Introduction to virtualization. • Hypervisors. • Virtual machines. • Containers. • Hardware support to virtualization.	X			No	- Review the concepts of session 2. - Read the documents associated to Lab I.	1,66	3,5h
3	3	• Lab I. Virtualization technologies.		X	Online virtual	Yes	- Prepare the deliverable of Lab I.	1,66	3,5h

					lab.				
4	4	**Part III: Network Function Virtualization** ***Topic III.1: Introduction and motivation*** • Why Network Function Virtualization? • History of NFV and the role of ETSI NFV ISG.	X			No	- Review the concepts of session 4. - Read the documents associated to session 5 (**).	1,66	3,5h
5	5	***Topic III.2: NFV architecture*** • Network services. • The NFV architecture. • NFV software architecture. • Descriptors in NFV.	X			No	- Review the concepts of session 5. - Read the documents associated to Lab II.	1,66	3,5h
6	6	• Lab II. OSM.		X	Online virtual lab.	Yes	- Read the documents associated to session 7 (**).	1,66	3,5h
7	7	**Part IV: Software defined networks** ***Topic IV.1: Introduction to SDN*** • Motivation and introduction to SDN.	X			No	- Review the concepts of session 7. - Read the documents associated to session 8 (**).	1,66	3,5h
8	8	***Topic IV.2: SDN architecture and OpenFlow basics*** • SDN architecture. • OpenFlow: basic concepts.	X			No	- Review the concepts of session 8. - Read the documents associated to session 9 (**).	1,66	3,5h
9	9	***Topic IV.3: OpenFlow and Integration with NFV*** • OpenFlow. • Integration with SDN.	X			No	- Read the documents associated to session 10 (**).	1,66	3,5h

10	10	• Basic concepts of Python3.		X	Online virtual lab.	No	- Read the documents associated to Lab III.	1,66	3,5h
11	11	• Lab III. Intro to SDN: mininet and Ryu.		X	Online virtual lab.	Yes	- Prepare the deliverable of Lab III. - Read the documents associated to Lab IV.	1,66	3,5h
12	12	• Lab IV. SDN development (I).		X	Online virtual lab.	Yes	- Continue preparing Lab IV.	1,66	3,5h
13	13	• Lab IV. SDN development (II).		X	Online virtual lab.	Yes	- Continue preparing Lab IV.	1,66	3,5h
14	14	• Lab IV. SDN development (III).		X	Online virtual lab.	Yes	- Prepare the deliverable of Lab IV. - Prepare for the knowledge test.	1,66	3,5h
15	15	• Knowledge test.						0,83	
						24,17	**52,5**	**23,33**	**49**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*						72,33	
15		Extra sessions, tutorships, assignments delivery, etc.							
16 17 18		• Preparation of the evaluation and evaluation (only for non-continuous evaluation)						3	3,5
						3	**3,5**	**3**	**3,5**
		Total 2 *(Hours of class plus student homework hours between weeks 15-18)*						6,5	
TOTAL *(Total 1 + Total 2. Maximum 180 hours)*								**83,17**	

(*) The homework description refers to the work that the student has to do to prepare the session on the following week.

(**) The references are, depending on the session, slides with lecture notes, short articles or selected parts of the recommended books. Most of the provided material will be in English.

Note on evaluation: The continuous evaluation mark is composed of three parts:

- Deliverables (problems, cases of study, etc): 20%.
- Lab results (based on milestones and/or short reports, there may be additional lab tests): 55%.
- Knowledge tests (during the sessions): 25%.