

SEMESTER 3	Subject: Roads and various networks (VRD)		
	UEF 1		Coefficient 3 Elimination Score = or >at 10.00
educational goals	<p>The courses in the subject “Roads and various networks” intended for students in the second year of the S3 license with an urban planning option, have the primary objective of introducing students to what VRD is in general, but especially in urban planning in particular.</p> <p>With an hourly volume of 03 hours, divided into 1h30 for the courses and 1h30mn for the tutorials, the courses are taught in such a way that the student can understand the usefulness of knowledge of VRD techniques as well as their field of application for the purposes of using them as reflection and design tools during studies of future urban developments.</p>		
Skills to acquire:	Acquire and become familiar with the principles of VRD as well as their role depending on the areas of application, and their usefulness in town planning.		
Teaching contents	<p>COURSE N°1: Introduction, definition. COURSE N°2: areas of application.</p> <p>COURSE N°3: Chapter I, Roads, Definition, classification, COURSE N°4: Pavement techniques.</p> <p>COURSE N°5: Chapter II, General Earthworks Definition, terminology, COURSE N°6: characteristics, execution phases.</p> <p>COURSE N°7: Chapter III, Sanitation 1/Designs of sanitation networks Definition, history, role, different types of sanitation, calculation concepts. COURSE N°7: 2/ Sanitation works: Main works, normal works</p> <p>COURSE N°8: Chapter IV, Various networks 1/ Drinking water supply (AEP): Needs, types of networks, materials, Equipment.</p> <p>COURSE N°9: 2/ Electrical distribution network: Installation methods, classification, Composition, operating conditions</p> <p>COURSE N°10: 3/Fuel gas distribution network, Sonelgaz Network, Different pressures, network elements, network design.</p> <p>COURSE N°11: 4/ Telecommunications network Communication network architecture, implementation procedures.</p>		
Teaching methods Exercises/tutorials	The tutorial sessions (TD) will be provided by educational outings (if possible) based on the progress of the courses. These outings will be the subject of an outing report prepared by the students and which will serve as a basis for educational evaluation.		
Evaluation method	Exam		
	T.D.		
BIBLIOGRAPHY	<ul style="list-style-type: none"> - Technical and regulatory document (DTR) established by the Ministry of Housing and Urban Planning. - End of training dissertation in TS en vrd, national institute specializing in professional training. INSNP Bir-El-Ater. - VRD Guides, Ministry of Housing and Town Planning, National Center for Integrated Building Studies and Research, Department of Architecture and Town Planning - Technical guide Road developments and parking areas - Sanitation technical guide - Technical guide for drinking water supply - Technical guide Green space development and planting - Ministry of Higher Education and Scientific Research - Larbi Ben M'hidi University – OUM EL BOUAGHI, - Master in hydraulics option: urban hydraulics 2020/2021 - “WATER” technical guide, VEOLIA Environnement 2009 Edition 		

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| | <ul style="list-style-type: none">- Ferhat Abbas Sétif 1 University, Institute of Architecture and Earth Sciences, L3 Architecture equipment course 2021- E-learning MILA university center, Master 2 urban hydraulics course 2021/2022 |
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