



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Ingegneria
ACADEMIC YEAR	2018/2019
MASTER'S DEGREE (MSC)	CIVIL ENGINEERING
SUBJECT	THEORY AND TECHNIQUE OF CIRCULATION
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50353-Ingegneria civile
CODE	07446
SCIENTIFIC SECTOR(S)	ICAR/05
HEAD PROFESSOR(S)	SALVO GIUSEPPE Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	9
INDIVIDUAL STUDY (Hrs)	144
COURSE ACTIVITY (Hrs)	81
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	SALVO GIUSEPPE Monday 10:00 12:00 Dipartimento di Ingegneria (area Trasporti piano 2°) Wednesday 10:00 12:00 Dipartimento di Ingegneria (area Trasporti piano 2°) Thursday 12:00 14:00 Dipartimento di Ingegneria (area Trasporti piano 2°)

DOCENTE: Prof. GIUSEPPE SALVO

PREREQUISITES	knowledge of transportation techniques and economics: locomotion mechanics of the road vehicle. Performance of road vehicles, the theory of flow, level of service. Basic knowledge of Construction of Road: Composition and organization of the roadway. The road intersections
LEARNING OUTCOMES	<p>Knowledge and understanding: After completing the course, student will have acquired knowledge and methodological tools for the study and solution of the movement of vehicles.</p> <p>Applying knowledge and understanding: The student will be able to use the knowledge and methods acquired for the analysis of emerging issues in the field of road and railway transport.</p> <p>Making judgments: The student will have acquired knowledge for the management of transport systems, with emphasis on urban mobility sustainable plans.</p> <p>Communication skills: The acquired skills make the student likely to have a capacity to communicate with organizations, companies who have responsibilities in the organization and delivery of transport services.</p> <p>Learning ability: Update capability by consultation of its scientific publications. Ability to attend, using the knowledge acquired in the course. Ability to learn, using the knowledge acquired in the course, topics related to the development of transport systems</p>
ASSESSMENT METHODS	oral examination will deal all the topics covered during the course
EDUCATIONAL OBJECTIVES	The objective of this course is to provide theoretical basis for studying the main transportation systems fundamental knowledge in traffic engineering. A particular attention is paid to transportation policy, planning and development. At the end of this course, participants will be able to understand principles applied in the traffic engineering as well as related engineering studies.
TEACHING METHODS	Teaching takes place in the second half of the 2nd year and consists of lectures and of numerical exercises. Classroom exercises are performed to simulate the final examination.
SUGGESTED BIBLIOGRAPHY	Olivari M. Tecnica del traffico e della circolazione, F. Angeli, Milano, Vicuna G., Organizzazione e tecnica ferroviaria, Edizioni CIFI, Roma, 1986 Highway Capacity Manual, TRB Sp. Report 209 , 3rd Ed., Natnl. Res. Council, Washington, D.C.,

SYLLABUS

Hrs	Frontal teaching
1	introduction to traffic studies and summary of available resources
2	Introduction to traffic engineering analysis, operation and control
4	Human Factors
6	Traffic flow theory
8	Road traffic control. Intersection Traffic Choice and Control
4	transportation data sources and surveys, fundamentals of travel demand and network modeling
4	Hierarchy of roads
6	design of car parking system
10	traffic calming and local traffic management
6	local and federal regulations and policies
10	Uninterrupted Flow, Interrupted Traffic Flow Introduction Macroscopic traffic Models, Microscopic Simulation Theory, Software packages
10	Overview of theoretical and experimental techniques to characterize and analyze arterial street and freeway traffic operations,
Hrs	Practice
10	Traffic Impact Analysis: definition Step-by-step of a project through an example analysis to illustrate the application process.