UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Architettura
ACADEMIC YEAR	2018/2019
MASTER'S DEGREE (MSC)	ARCHITECTURE AND BUILDING ENGINEERING
SUBJECT	SUSTAINABLE MOBILITY SYSTEMS
TYPE OF EDUCATIONAL ACTIVITY	C
AMBIT	50672-Attività formative affini o integrative
CODE	19088
SCIENTIFIC SECTOR(S)	ICAR/05
HEAD PROFESSOR(S)	MIGLIORE MARCO Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	80
COURSE ACTIVITY (Hrs)	70
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	4
TERM (SEMESTER)	2° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**MIGLIORE MARCO** Tuesday 09:30 11:30 Stanza propria area Trasporti e Geomatica del DICAM Thursday 09:30 11:30 Stanza propria area Trasporti e Geomatica del DICAM

DOCENTE: Prof. MARCO MIGLIORE

PREREQUISITES	Mathematical analysis. Physics basics
LEARNING OUTCOMES	Knowledge and ability to understand At the end of the course the student will have acquired knowledge and methodologies to address and to solve strategic issues in an original way. The student will be able to formulate strategies on urban and metropolitan transport system taking into account the response of the transport demand and the mutual interaction between transport supply and demand. Ability to apply knowledge and understanding The student will have acquired knowledge and methodologies to investigate and to solve problems of interaction between transport supply and demand. He will be able to formulate strategies, model the effect of interdependence, locate the outputs of the strategic planning and assess their consequences with regard to original and innovative contexts. Autonomy of judgement The student will acquire methodologies related to the demand transport modelling and the design of transport networks. He will understand complex issues concerning the design of multimodal and multiuser integrated transport networks through the methodological approach acquired during the course. Communicative skills The student will be able to communicate competently and with language properties complex issues regarding the transport planning in a urban and metropolitan system. Learning skills The student will be able to deal with different issues related to transport planning in a urban and metropolitan system.
ASSESSMENT METHODS	Oral examination The oral examination consists of: -a discussion pertaining to the study of planning carried out individually or in groups during the course. The discussion makes use of boards and/or reports prepared and provides for the theoretical and technical issues addressed; -an interview about other topics covered during the course. The student must pass the oral test individually even if he supported a group effort and the result is evaluated individually. The proof is in order to evaluate the availability of disciplinary skills and knowledge required by the course, and in particular they will evaluate: - the level of knowledge of the course content; - the ability to establish connections between course content; - independent judgments on the content of the course, the applications of course content, the contents of the course within a professional context; - the use of an appropriate technical language. EVALUATION The score, expressed in thirtieths, will be assessed on the basis of achievement relating to points previously exposed to a minimum (18/30) which implies a knowledge of the subjects and sufficient competence until the highest level (30/30 honours) of knowledge, competence, autonomy and language. In order to achieve a rating from 19/30 to 29/30 the student must demonstrate increasing levels of knowledge that exceed the sufficiency and approach the maximum score possible, demonstrating different degrees (more than enough to more than good) of knowledge, synthesis and judgment, properties of language.
EDUCATIONAL OBJECTIVES	The aim of this course is to analyze the operating characteristics of the various conventional and innovative urban transport system, analyzing the relationships with the travel needs of users in a urban and metropolitan system. The course will include topics in transportation planning with applications relating to assignment models and to demand models. Various strategies will be analyzed, through the discussion of case studies, in order to increase the environmental sustainability of the transport and of the territory system in a short period of time. In particular the Urban Traffic Plans will be analyzed.
TEACHING METHODS	Lectures, exercises.
SUGGESTED BIBLIOGRAPHY	Cantarella G.E. (a cura di), Introduzione alla Tecnica dei Trasporti e del Traffico, Trasporto collettivo urbano e metropolitano di Domenico Gattuso, Torino, U.T.E.T., 2001. Cascetta E., Montella B., Metodologie per la redazione e la gestione dei Piani urbani del traffico e della mobilita, Franco Angeli, Milano. Dispense del Corso

SYLLABUS

Hrs	Frontal teaching
2	Urban Traffic Plans. Articulation and design content
2	Intervention on transport supply
2	Intervention on transport demand

SYLLABUS

Hrs	Frontal teaching
2	Surveys for developing Urban Traffic Plans
4	Urban Mobility Plans
4	Transport demand modelling
4	Transport supply modelling and assignment model
2	Quantitative analysis for developing Urban Traffic Plans
8	Technical characteristics and performance of public transport systems
4	Parking in urban areas
2	Performance indicators for public transport systems
4	Application assignment model

Hrs	Practice
14	Classroom presentation and discussion of case studies related to transportation planning
16	Assistance for the development of the project outline