



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Ingegneria
ACADEMIC YEAR	2020/2021
MASTER'S DEGREE (MSC)	CIVIL ENGINEERING
SUBJECT	PLANTS AND YARDS FOR CIVIL WORKS
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50353-Ingegneria civile
CODE	17625
SCIENTIFIC SECTOR(S)	ICAR/04
HEAD PROFESSOR(S)	DI MINO GAETANO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	96
COURSE ACTIVITY (Hrs)	54
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	DI MINO GAETANO Wednesday 15:00 - 17:00 da definire

PREREQUISITES	knowledge of the topics of the following courses: road design and construction of road, railway and airport. Knowledge referred to probability theory, statistics and economics elements
LEARNING OUTCOMES	<p>Knowledge and understanding</p> <p>Acquisition of knowledge and methods to address and resolve outside the box the issues of the operational phases of organization and management of the yards for the construction of civil works, such as roads and railways, as well as plants for bituminous and portland concrete production and for construction and demolition waste recycling. To develop the skills in order to address the themes of the course by following an approach which focuses both on the environmental and economic sustainability of the processes and the need for efficiency of decision-making criteria employed.</p> <p>Applying knowledge and understanding</p> <p>Acquisition of knowledge and methodologies to identify and put in place the solutions, technical and managerial requirements relating to the proper execution of civil works such as road infrastructure, in terms of economic and environmental aspects, also by means of modern and innovative techniques.</p> <p>Autonomy of judgment</p> <p>Acquisition of analysis methods, both in the technical sphere of embodiment, both of the decision-making methods for the executive programming, both of the management processes of the production facilities of first and second materials, to allow a complete and integrated view of the various aspects. According to this view, it is able to autonomously analyze any problem concerning the topics of the course and deal with a good baggage of skills, the result of the examination of case studies and research, made during course.</p> <p>Communication skills</p> <p>Development of specific communication skills consisting of written and verbal discussion, with adequate properties of language, of issues such as: the project of working zone of linear and punctual infrastructures; the features of construction equipment with particular reference to the functions, the costs, the technical and economic returns; the deterministic and stochastic techniques of work programming; plants for bituminous and portland concrete production and for construction and demolition waste recycling; planning and management of safety in construction; the BIM (Building Information Modeling) processes and techniques for the management of execution activities; the technical and legal aspects of the legislation on civil works</p> <p>Learning ability</p> <p>Ability to update and investigation through consultation of its scientific publications focused on construction and management phases and the assessment of environmental sustainability and economic feasibility of these processes. Using the knowledge base acquired during the course, for conscious participation in second-level master courses, training courses, professional workshop and seminars</p>
ASSESSMENT METHODS	<p>The candidate must deliver a project work within 10 days from the examination booked; such a work, including a report, is focused on the execution management (construction phase and yard) of a work of civil engineering. The project will be evaluated on the basis of four key criteria: accuracy, completeness, text organization in terms of linguistic exposure and shape, deepening. The assessment of such processed contribute to the final evaluation, which will be made on the basis of an oral examination by a score up to 30. The candidate must answer at least three questions that cover the entire syllabus. The pivotal criteria of the oral exam are: knowledge and mastery of subject content; enforcement capacity and conceptual rigor; expressive and explaining capacity, multidisciplinary connection and original reworking. the evaluation in terms of 30/thirty is based on the following criteria within the voting range:</p> <p>18/21 overall sufficient knowledge, skills and expression; 22/24 overall fair knowledge, skills and expression; 25/27 overall good knowledge, skills and expression; 28/30 overall very good knowledge, skills and expression; 30 cum laude/excellent knowledge, skills and expression.</p>
EDUCATIONAL OBJECTIVES	Objective of the course is to provide and train the technical skills of the engineer aimed at the professional activities such as a role in government, in the managing bodies of civil infrastructure, and especially in the construction business. The approach to the study of various topics hinges on case histories and research and professional experience of the teacher, accompanied by discussion on theories whose study is preparatory to applications which will be held during the course. The course therefore aims to provide the learner of the fundamental and strong theoretical background on the topics addressed not separate from knowledge of a broad application view.
TEACHING METHODS	lessons, exercises and meeting
SUGGESTED BIBLIOGRAPHY	dispense del corso

SYLLABUS

Hrs	Frontal teaching
1	introduction
5	the work zone design
2	Selection of construction equipment and production costs
4	construction equipment - features, costs and returns
5	planning and scheduling techniques
3	safety in the work zone
5	plants for bituminous and portland concrete production and for construction and demolition waste recycling
2	notes on BIM processes and techniques for management of execution activities
3	notes on Procurement Law and Tender Specifications
Hrs	Practice
3	Working zone layout
2	production costs and price analysis
4	Productivity of construction equipment
3	Activity planning and scheduling
12	planning and programming activities for construction through a software