Università degli Studi della Basilicata
Scuola di Ingegneria

COURSE: **Airport Engineering**				
TEACHER: **Saverio OLITA**				
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Language: **Italian**				
ECTS: **9**	n. of hours: **81**	Academic year: **2014-15**	Campus: **Potenza**	Semester: **I**

TOPICS

General Information on air transport, airport planning, the design of airport infrastructures, the heliports design, assessment and management of the environmental impact of airport infrastructure, design and maintenance of airport pavements, support systems and airport facilities.

TEACHING METHODS

⊟ Theoretical lessons
□ Tutorials in classroom
□ Tutorials in laboratory
⊟ Project works
□ Technical visits

TEXTBOOKS

Di Mascio P., Domenichini L., Ranzo A., "*Infrastrutture aeroportuali*", ed. Ingegneria 2000, 2009.
Agostinacchio M., Ciampa D., Olita S., "*Strade Ferrovie Aeroporti*" III Edizione, EPC Srl, Roma, 2010
R. Horonjeff, F. McKelvey, W. Sproule, S. Young, "*Planning and Design of Airports*", 5th Ed., McGraw-Hill, 2010.
S. Young, A. Wells, "*Airport Planning & Management*", 5th Ed., McGraw-Hill Professional, 2004.
N. J. Ashford, S. Mumayiz, P.H. Wright, "*Airport Engineering*", 4th Ed., Wiley-Interscience, 2011.
Tesoriere G., "Strade Ferrovie Aeroporti", Volume III, "*Infrastrutture Aeroportuali*" ed. UTET, 1993.
ICAO, Annex 14, Volume I, Aerodrome, 1999 e Volume II, Helistations, 1995.
ENAC, "*Regolamento per la costruzione e l'esercizio degli aeroporti*", Edizione n.2 - Emendamento 8 del 21 dicembre 2011.
ENAC, "*Regolamento per la Costruzione e l'esercizio degli eliporti*", Edizione n.1 del 20 ottobre 2011.
Course's notes provided by the professor and also available online.

ON-LINE EDUCATIONAL MATERIAL

web address: https://sites.google.com/site/saverioolita/download

LEARNING OUTCOMES

Acquisition of the theories and techniques addressed in the design, construction and testing of airport infrastructure, making their own at the same time, the issues related to the airport pavements calculation, as well as the plants and the complementary flight devices.

REQUIREMENTS

It is suggested to pass previously the exams of "*Principles of Roads, Railways and Airports*" and "*Materials for Roads, Railways and Airports construction*".

EVALUATION METHODS

□ Intermediate verifications
□ Written examination
⊟ Discussion of a project work
□ Practical test
⊟ Oral examination

DETAILED CONTENT

Air transport: general information, development and organization of the air transport, regulatory framework, aircraft-airport compatibility, airport system efficiency, airspace and aeronautical charts. *The airport planning*: planning objectives, the master plan and the site selection. *Airport infrastructure design*: overview of aerodynamics and flight mechanics, the characteristics of civil aircraft, the airport area requirements, airports classification, take-off and landing maneuvers, available and required distances, runway characteristics, profile and cross-section, orientation and arrangement of runways, drain pipes and drainage, aprons, air terminal and other infrastructure. *The infrastructures for VTOL (Heliports) and STOL aircrafts*: heliports classification, take-off and landing maneuvers, available and required distances, runway characteristics. *Assessment and environmental impact management*: regulatory framework, noise pollution, noise management. *Airport pavements technology and calculation*: airport pavements technology and selection criteria, factors that influence the pavements design, the single wheel equivalent load, evaluation criteria for runway bearing capacity, rigid and flexible pavements design, maintenance problems and recovery. *Airport plants and support systems*: signaling devices, light and visual aids for navigation, markings etc.

SEMINARS BY EXTERNAL EXPERTS YES □ NO ⊟

FURTHER INFORMATION

The didactic organization provides for 81 total hours of which 48 hours of lecture and 33 of practice. The certificate of attendance of didactic activities is ex-officio satisfied at the end of the semester in which they are located.