

COMMUNICATION ENGINEERING AND ELECTRONIC TECHNOLOGIES

(Lecce - Università degli Studi)

Teaching APPLIED ELECTROMAGNETICS (Int.)

GenCod A003111

Owner professor Luciano TARRICONE

Teaching in italian APPLIED
ELECTROMAGNETICS (Int.)

Teaching APPLIED ELECTROMAGNETICS
(Int.) **Language** ENGLISH

SSD code ING-INF/02

Course year 2

Curriculum PERCORSO COMUNE

Reference course COMMUNICATION
ENGINEERING AND ELECTRONIC

Course type Laurea Magistrale

Location Lecce

Credits 6.0

Semester

Teaching hours Front activity hours:
54.0

Exam type Oral

For enrolled in 2017/2018

Assessment

Taught in 2018/2019

Course timetable

<https://easyroom.unisalento.it/Orario>

TEACHING METHODOLOGY

Lezioni frontali, esercitazioni per la soluzione di problemi pratici, esercitazioni al calcolatore, esercitazioni in laboratorio, seminari

ASSESSMENT TYPE

Sviluppo e realizzazione di un progetto pratico (verificare la capacità di risolvere problemi pratici) e prova orale (verificare la capacità di analisi, critica, ed esposizione degli argomenti)

FULL SYLLABUS

Please see the reference notes in the section related to the reference books/material to identify the materials to be studied for each part of the course's program.

- Introduction to the course [1]: Chapter 3, 4 and 5
- Introduction to EMC [1]: Chapter 1
- BioEM

[2]: Chapter 1, 2, 3 and 4

[3]: Introduction, Chapter 1, 8 and 9

Professor's notes on EM Exposure Safety Standards and Laws

Three Professor's papers on BEM modelling

Professor's notes on numerical dosimetry

Professor's notes on classification of EM sources

Professor's notes on ELF fields emitted by Power lines and their reduction

[1], [4], Selected papers by (i) Hodgkin and Huxley, (ii) Colquhoun and Hawkes

- Wireless Systems and EM enabling technologies

Professor's notes on Radiopropagation

Professor's notes on RFID

Professor's notes on new materials and technologies

[5]: Chapter 6

One Professor's paper on the convergence of EM Technologies towards IOT [6], [7]

- Radar Systems for meteorology

Professor's notes [8], [9]

- Shielding and Measurement Environments

[1]: Chapter 11

[11]: Chapter 5 and 6 [10], [11]

- Measurement Techniques and Instrumentations

Professor's notes

REFERENCE TEXT BOOKS

Books:

[1] C. Paul, Electromagnetic Compatibility (EMC)

[2] J. Malmivuo, R. Plomsey, Bioelectromagnetics (BEM)

[3] C. Polk, E. Postow, CRC Handbook of Biological Effects of EM Fields

[4] B. Hille, Ionic Channels of Excitable Membranes

[5] L. Tarricone, A. Esposito, Grid Computing for EM

[6] T. Rappaport, Wireless Communications

[7] K. Finkenzeller, D. Muller, RFID Handbook

[8] M. A. Richard, J. Scheer and W. Holm, Principles of Modern Radar

[9] R. J. Doviak, D. S. Zrnic, Doppler Radar and Weather Observations

[10] L. H. Hemming, EM Anechoic Chambers

[11] V. P. Kodali, Engineering EMC