



COURSE: Electromagnetic Fields

TEACHER: Vincenzo Fiumara

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website:

Language

ECTS: 9

n. of hours:78

Academic year: 2015-16

Campus: Potenza

Semester: I

TOPICS

Basic electromagnetic theory. Plane waves. Transmission lines. Metallic waveguide.

TEACHING METHODS (please tick one or more options)

Theoretical lessons

Tutorials in classroom

Tutorials in laboratory

Project works

Technical visits

Other activities (please specify) _____

TEXTBOOKS

G.Franceschetti, Campi Elettromagnetici, Boringhieri.

G.Gerosa, P.Lampariello, Lezioni di Campi Elettromagnetici, Ed. Ingegneria 2000.

ON-LINE EDUCATIONAL MATERIAL

web address:

LEARNING OUTCOMES

Ability to understand phenomena dealing with free and guided electromagnetic propagation.

REQUIREMENTS

Fundamentals of mathematics and physics.

EVALUATION METHODS (please tick one or more options)

Intermediate verifications

Written examination

Discussion of a project work

Practical test

Oral examination

Other methods (please specify) _____

DETAILED CONTENT

Maxwell's equations. Constitutive relationship. Boundary conditions. Poynting's theorem. Uniqueness theorem. Plane waves. Snell's law. Fresnel's formulas. Total internal reflection. Brewster angle. Skin depth. Metallic waveguides. Transmission lines. TEM, TE and TM modes. Rectangular waveguide. Dominant mode. Phase and group velocity.

EXAMINATION SESSIONS (FORECAST)

03/02/2016, 24/02/2016, 18/05/2016, 13/07/2016, 14/09/2016, 21/12/2016.

SEMINARS BY EXTERNAL EXPERTS YES NO



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Scuola di Ingegneria

FURTHER INFORMATION
