ADVANCED ANTENNA ENGINEERING

1. KEY INDICATORS

CFU/ECTS: 6
Professor: Paolo Baccarelli - Paolo Burghignoli
Contact Professor: Tel. +39 06 44585452, paolo.baccarelli@diet.uniroma1.it, burghignoli@die.uniroma1.it
Website Professor: http://dip-diet.unisapienza.cineca.it/node/5618#overlay-context=node/5617Paolo, http://151.100.120.244/personale/burghignoli/index.htm

2. OBJECTIVES OF THE COURSE

Antennas are fundamental components of modern wireless communication systems for smart environments such as pervasive systems for distributed information and computing, advanced space systems, intelligent transportation systems. This course aims at providing a selection of advanced topics in antenna engineering, including analytical, numerical, and experimental techniques: smart and MIMO antenna arrays; theory and applications of periodic structures; resonant and traveling□wave antennas for terrestrial and space communication systems; numerical methods and CAD tools for antennas.

3. ACQUIRED ABILITIES

4. PROGRAM OF THE COURSE

Review of antenna parameters, theroems, and other fundamentals
Arrays and MIMO systems
Periodic structures and applications
Resonant integrated antennas
Planar traveling-wave antennas
numerical methods and CAD

5. REFERENCES

C. A. Balanis, Antenna thory, analysis ad design. New York, NY: Wiley Interscience, 2005, 3a ed. ·
R. E. Collin and F. J. Zucker, Antenna theory. New York, NY: McGraw□Hill, 1969. ·
R. C. Booton, Computational methods for electromagnetics and microwaves. New York, NY: Wiley, 1992, 2a ed.

6. WEBSITE OF THE COURSE

http://dip□diet.unisapienza.cineca.it/node/5618#overlay□context=node/5617
http://151.100.120.244/personale/burghignoli/index.htm