1st degree University program ELECTRICAL ENGINEERING

Title: Measurements

Lecturer: Prof. Dr. Janko Drnovšek, Prof. Dr. Dušan Agrež

Aim of the course:
To study the fundamentals of metrology and metrological systems; To introduce the basic principles of measurement of most important quantities in engineering; To learn the approaches and methods of measurement of basic electric quantities; To extend the concepts of measurement and comprehension and interpretation of the measuring results; Besides its theoretical aspects it helps the preparation for laboratory practices.

Required (pre)knowledge:
None

Contents:
Fundamental principles of measurement and information content of signals; Measuring accuracy and uncertainty; Measurement of electrical quantities; Application of basic measuring instrumentation; Measurement of non-electrical quantities.

Selected references:
Morris A.S., Measurement and Instrumentation Principles. Oxford: Butterworth-Heinemann, 2001.
Tumanski S., Principles of Electrical Measurement, Taylor & Francis, CRC Press, 2006.
Evaluation of measurement data - Guide to the expression of uncertainty in measurement (GUM 1995 with minor corrections), International Organization for Standardization, 2008 (http://www.bipm.org/en/publications/guides/gum.html).
Agrež D., Begeš G., Geršak G., Batagelj V., Hudoklin D., Meritve - laboratorijske vaje (ver. 1), University of Ljubljana, Faculty of Electrical Engineering, 2010.