



## COURSE DATASHEET

<b>Semester:</b>	2013/14/2
<b>Course:</b>	Electronics laboratory exercises
<b>Code:</b>	VEMKFIB231E
<b>Responsible department:</b>	Institute of Physics and Mechatronics
<b>Department code:</b>	MKFI
<b>Responsible instructor:</b>	dr. István Szalai

---

### Course objectives:

The main objectives of this course to provide practical knowledge in the field of electronics and electric circuits

### Course content:

1. Measurement of basic electronic quantities. 2. Properties of passive electronic circuits and devices. 3. Diode and transistor characteristics. 4. Basic circuits of amplifiers. 5. Reference voltage circuits. 6. Properties and designing electronic voltage supplies. 7. Instrumental amplifiers and applications. 8. Temperature and pressure sensors. 9. Signal amplification of ionselective electrodes, data processing. 10. Conductivity sensors and temperature compensation. 11. AD and DA converters, PC applications. 12. Basic circuits of photodiodes and phototransistors. 13. Oscillators and basic properties. 14. Written exam

### Requirements, evaluation and grading:

practical mark

### Required and recommended readings:

U. Tietze, Ch. Schenk: Analóg és digitális áramkörök, Műszaki Könyvkiadó, Budapest, 1998. P. Horowitz, W. Hill: The art of electronics, Cambridge University Press, Cambridge 1993. I.E. Shepherd: Műveleti erősítők, Műszaki könyvkiadó, Budapest, 1985.