

Tárgytematika / Course Description

Basic Informatics

GKNB_MSTA052

Tárgyfelelős neve /

Teacher's name: dr. Kallós Gábor

Félév / Semester: 2020/21/1

Beszámolási forma /

Assesment: Folyamatos számonkérés

Tárgy heti óraszám /

Teaching hours(week): 1/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

The aim of the subject/course is to introduce students to the basic concepts of data processing and visualization. After completing the course, students will understand the fundamental workflow of data processing and signal processing, and will be able to analyze, visualize and interpret data with Matlab and Excel.

TANTÁRGY TARTALMA / DESCRIPTION

Atoms:

- Matlab basics (calculus, user-defined functions, scripts);
- Technical and mathematical applications (function analysis, optimization problems, visualisation, trend analysis, regression, image processing);
- Programming basics in Matlab;
- Presentation of a real industrial project, theory and practice (data acquisition, measurement technique, elaboration, visualisation);
- Function analysis and data processing in Excel.

Projects.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Evaluation will take place as follows: written or oral assessment of atoms (50%) AND class and project participation (50%).

Written or oral assessment of atoms (50%): will evaluate students' knowledge related to the course material. The assessment takes place throughout the semester.

Class and project participation (50%):

- Class participation (20%) will be evaluated based on presence and the quality of questions and comments during class time. Throughout the semester at least three (3) substantive questions are expected from each student during class

or consultation time;

- Successful completion of project work related to the course throughout the semester (30%).

Assessment is performed on a scale of five grades. Grades will be determined as follows:

0-51% fail,

52-61% passable,

62-71% satisfactory,

72-81% good,

82-100% excellent.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Amos Gilat, Matlab® - An Introduction with Applications, Fourth Edition, Wiley, ISBN: 978-0-470-76785-6

Benny Raphael, Ian F. C. Smith, Engineering Informatics: Fundamentals of Computer-Aided Engineering, Second Edition, Wiley, ISBN: 978-1-119-95341-8