

AE0B17MTB

- 13 weeks (14th week is a ‘reserve’)
 - 10 blocks with new theory
- **conditions of credit award:**
 - to hand in a project (next-to-last week of the semester)
 - to pass a test (min. 50%, next-to-last week)
 - on top of that two short tests during semester (possibility of a bonus)
 - max. 2 missed classes
- could happen that not all of the stuff of the course will be presented, because of time constraint - understanding the basics is a priority
 - bonus stuff (slides) available for advanced students

Data types

Code execution

Visualization

Relation and logical operators

Matrix operations

User scripts and functions

Numerical methods

Symbolic math

AE0B17MTB – Course syllabus

1	Introduction, information on the course, MATLAB workspace, basic arithmetic operators, basic functions
2	Complex numbers, complex matrix design, matrix operations, element-by-element operations, introduction to vectorization, matrix dimension
3	Indexation, data type and size, output format, MATLAB Editor, script design
4	Cycles, relation and logical operators, cycles vs. vectorization, control flow #1
5	Control flow #2, visualization in MATLAB #1, debugging #1
6	Set operations, sorting, searching, user-defined functions #1
7	User interface (main functions, subfunctions, nested functions, anonymous functions)
8	Strings, 'eval' and 'feval' functions, MATLAB path
9	Visualization in MATLAB #2, GUI #1
10	GUI #2
11	Date and time functions, error handling, cell, struct, I/O, basics of symbolic computations
12	MATLAB profile, p-code, numerical accuracy, publishing MATLAB code, programming style guidelines
13	Exercises , test
14	/reserve/

AE0B17MTB – Deadlines

1	call for project proposals
2	
3	list of projects, discussion on own topics
4	project choice , <i>short test</i> (approx. 10-15 min) aimed on solving given problem in Matlab
5	
6	
7	
8	project choice , <i>short test</i> (approx. 10-15 min) aimed on solving given problem in Matlab
9	
10	
11	
12	
13	project hand-in (next-to-last week of the semestra), <i>test</i>
14	test evaluation, credit award

AE0B17MTB – Principles

- the aim of the course is to teach you something - if the presentation is to fast, be heard
- if you have an idea / proposal how to solve a problem in a more efficient way, put it forward
- can happen that the lecturer is not able to answer your question immediately, in that case the answer will be provided during the next lecture

Recommended literature, resources

- Matlab documentation

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>> doc % opens the help browser
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- Basic web-based textbooks on Matlab (so called primers)

- www.mathworks.com/help/pdf_doc/matlab/getstart.pdf
- <http://artax.karlin.mff.cuni.cz/~beda/cz/matlab/primercz/matlab-primer.html>

- Attaway, S.: Matlab – A Practical Introduction to Programming and Problem Solving, 3rd ed.

- available at Department's library

- Hahn, B. H., Valentine, D. T.: Essential Matlab, 5th Ed.

- available at Department's library

- and others ...