

Requirements for assessment and exam

Assessment

- active participation on exercises
- two assessment tests

maximal amount of points you can get is 200.

- ≥ 100 points \rightarrow assessed
- 60 - 99 points \rightarrow
 \rightarrow one trial for summary test
- < 60 points \rightarrow one has to repeat the subject

Dates: 1st test - Friday 25th October, 2nd - Friday 29th November.

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Exam - 3 trials

- 1) written part - ≥ 50 p from 100p \rightarrow oral part
- 2) oral part - get 2-3 topics (written preparation)

■ **Electronic materials**

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 - personally
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- **FB** ... group

Terminology a notation

Logical connectives (operators):

\neg ... negation; it is not true that

\wedge ... conjunction; and (at the same time)

\vee ... disjunction; and or

\Rightarrow ... implication; if ... then , assumption \Rightarrow conclusion

\Leftrightarrow ... equivalence; if and only if (iff)

Quantifiers:

\forall ... for all, for every

\exists ... there exists (at least one)

Set symbols:

\in ... is an element

\subset, \subseteq ... is a subset of

\cup ... union

\cap ... intersection

$M = \{x \in X \mid \text{properties}\}$... definition of the set $M \subseteq X$

Definition - describing a new concept using already known

Theorem - assertion, which can be logically deduced from definitions, axioms or already proven assertions. Usually they have the form of implication (\Rightarrow) nebo equivalence (\Leftrightarrow).

Proof = deduction. (Often will be skipped.)

Example:

Definition: Let $a, b, c \in \mathbb{R}$, $a \neq 0$. We say that equation in the form $ax^2 + bx + c = 0$, is a **quadratic equation**.

Theorem: If $b^2 - 4ac > 0$, $a \neq 0$, then the quadratic equation $ax^2 + bx + c = 0$, has two roots in the form

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

Proof: calculation