

**Title**

Systems of Linear Equations  
Sistemi linearnih jednačina

**Author(s)**

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**Short description/ main idea**

Learning and practicing various methods of solving systems of linear equations at different lectures in different contexts.  
Usvajanje i uvezbavanje razlicitih metoda resavanja sistema linearnih jednačina na razlicitim casovima u razlicitim kontekstima.

**Learning objectives**

Cognitive - Knowledge: Conceptual, Procedural

Cognitive - Process: To remember, To understand, To apply

Affective: To pay attention, To respond and participate

Psychomotor: To perform confidentially following instructions, To perform independently, skillfully and precisely, To adapt and perform creatively

**Learning activities**

Phase 1: Systems of Linear Equations

Description of phase: Learning and practicing various methods of solving systems of linear equations at different lectures in different contexts. Lesson 1: Working in pairs pupils solve real-life problems that require the application of the system of linear equations. They solve obtained systems of equations using Gaussian elimination. Lesson 2: Pupils determine the value of direct current using Kirchoff rules. They use determinants to solve obtained systems. Lesson 3: Pupils graphically solve systems of linear equations by using GeoGebra.

Activities

1.1: Solving real life problems (Gaussian elimination)

1.2: Determining the value of direct currents by using Kirchoff's rules

1.3: Graphical solution of linear equations using GeoGebra.

Phase 1: Sistemi linearnih jednačina

Description of phase: Usvajanje i uvezbavanje razlicitih metoda resavanja sistema linearnih jednačina na razlicitim casovima u razlicitim kontekstima. 1. cas: Radeci u paru ucenici resavaju zadatke iz realnog zivota koji zahtevaju primenu sistema linearnih jednačina. Dobile sisteme resavaju primenom Gausovog postupka. 2. cas: Ucenici odredjuju vrednosti jednosmerne struje koristeći Kirchofova pravila. Dobile sisteme resavaju primenom determinanti. 3. cas: Ucenici graficki resavaju sisteme linearnih jednačina koristeći GeoGebra.

Activities

1.1: Resavanje zadataka iz realnog zivota (Gausov postupak)

1.2: Odredjivanje vrednosti jednosmernih struja primenom Kirchofovih pravila

1.3: Graficko resavanje sistema linearnih jednačina koristeći GeoGebra.

**Language**

English

Serbian

## Grade & Age

Age: 16

Age: 16

Grade: secondary education

## Domain

ICT>Using ICT

Science>Physics>Electricity and magnetism>AC/DC

Mathematics>Algebra and Number Theory>Linear Algebra ? Number Theory>System of equations

## Keywords/subject

System of linear equations, Kirchhoff's laws, DC, GeoGebra

Sistemi linearnih jednacina, Kirchofovi zakoni, jednosmerna struja, GeoGebra

## Difficulty

medium

## Learning environment

Computer-based, Lecture-based

## Duration

2 Hours & 15 Minutes

## Teaching approach

Behaviourist: Programmed instruction

Cognitivist: Collaborative learning, Inquiry learning, Problem  based

Constructivist: Socratic instruction

## Assessment strategy

Not assessed

## Phases

1.Systems of Linear Equations

1.Sistemi linearnih jednacina

## Description of phase

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Usvajanje i uvezbavanje razlicitih metoda resavanja sistema linearnih jednacina na razlicitim casovima u razlicitim kontekstima.1.cas: Radeci u paru ucenici resavaju zadatke iz realnog zivota koji zahtevaju primenu sistema linearnih jednacina. Dobijene sisteme resavaju primenom Gausovog postupka.2.cas: Ucenici odredjuju vrednosti jednosmerne struje koristeći Kirchofova pravila. Dobijene sisteme resavaju primenom determinanti.3.cas: Ucenici graficki resavaju sisteme linearnih jednacina koristeći GeoGebru.

## Learning activities

1.1 Solving real life problems (Gaussian elimination)

1.1 Resavanje zadataka iz realnog zivota (Gausov postupak)

1.2 Determining the value of direct currents by using Kirchoff's rules

1.2 Odredjivanje vrednosti jednosmernih struja primenom Kirhofovih pravila

1.3 Graphical solution of linear equations using GeoGebra.

1.3 Graficko resavanje sistema linearnih jednacina koristeći GeoGebra.