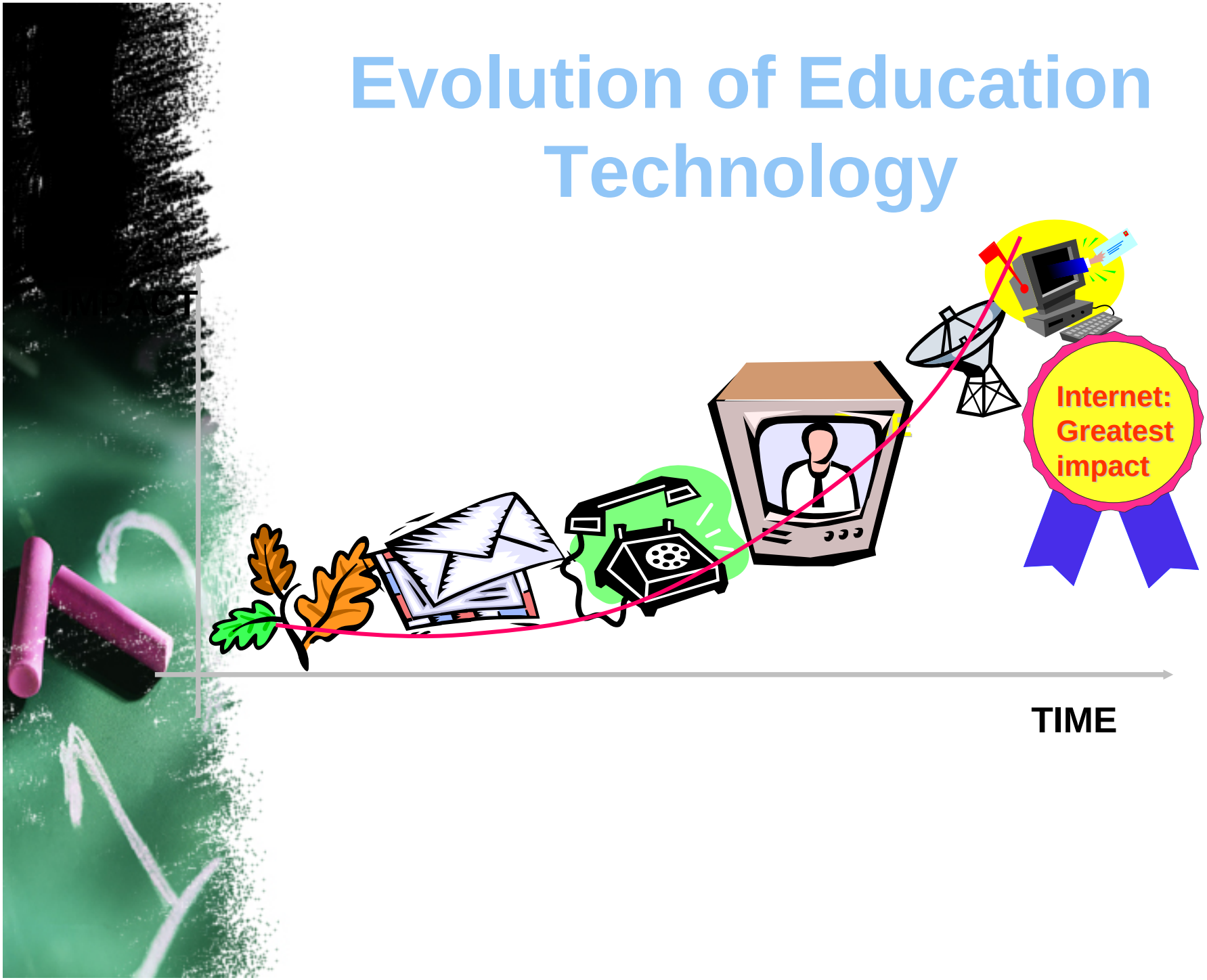
Developing Learning Innovation Teams at the Palestinian Universities

LIT

BIRZEIT UNIVERSITY
Birzeit, Palestine

Evolution of Education Technology



E-learning: Blended mode

Chalk-and-board has long ruled the classrooms

Will not be eliminated

Interactive Digital Content:

- **on demand learning**
- **interactive**

Delivery mode will change

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Growing student population

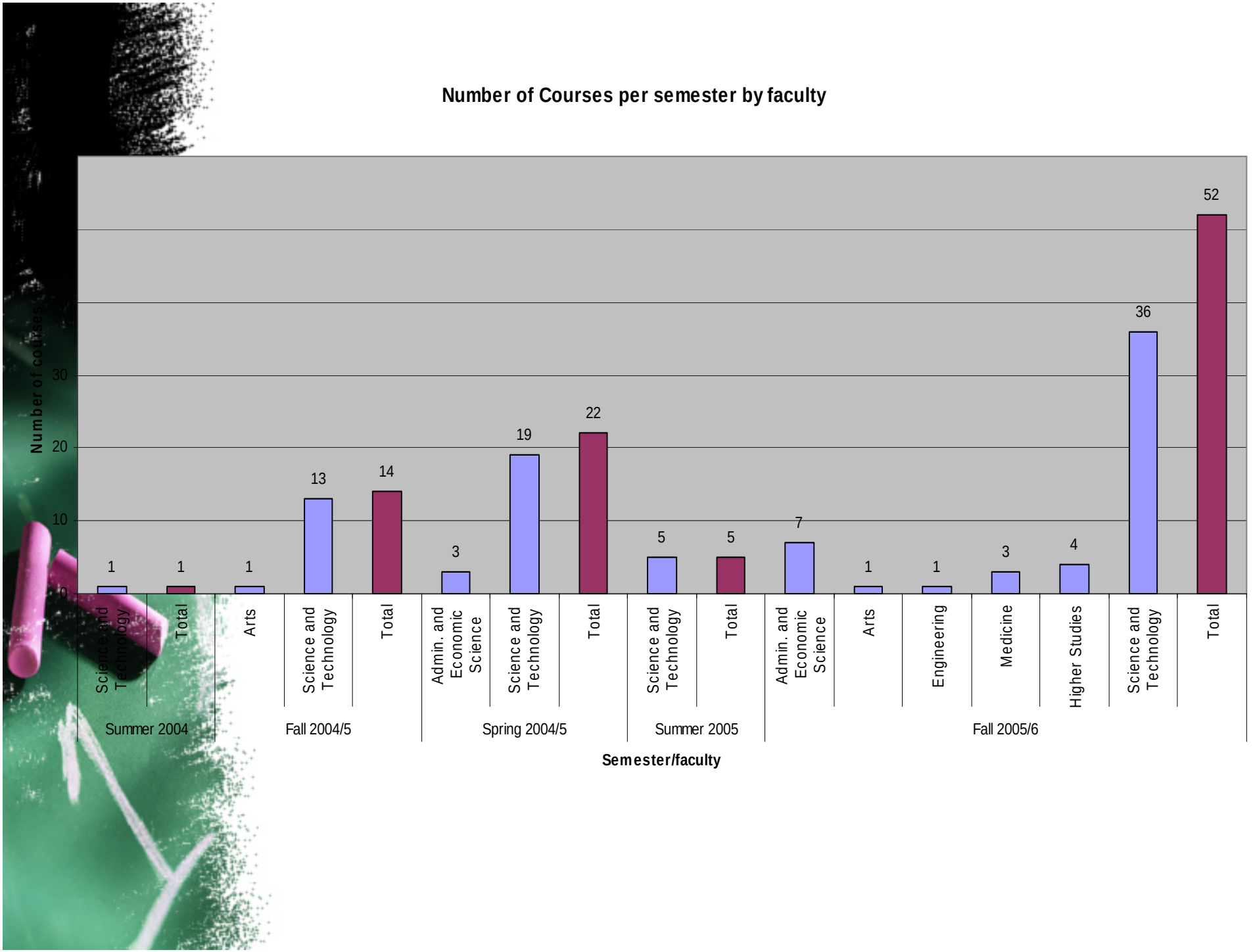
Increase in tuition fee

Lack of facilities and funding

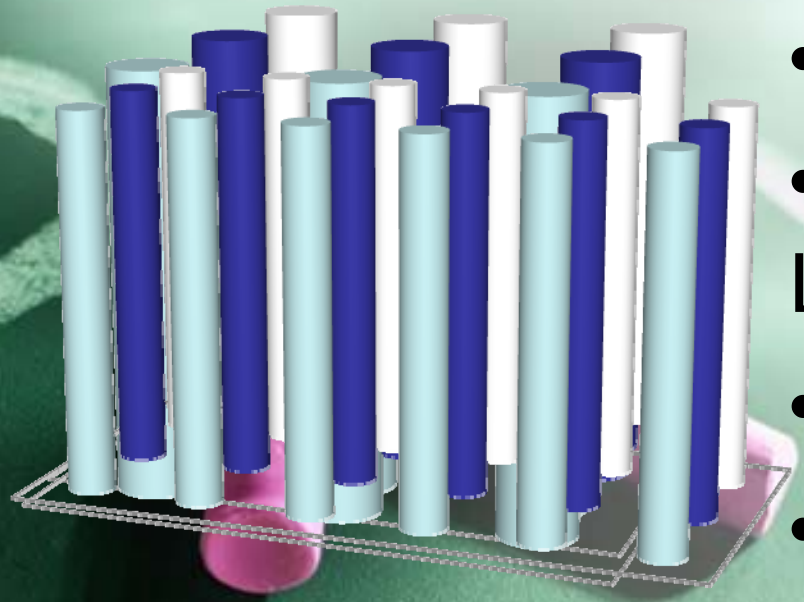
More virtual universities

Cost effective solutions

Number of Courses per semester by faculty



LIT: Partnership Model



- Based on real needs
- Sharing Experiences
- Focus on the quality of Learning
- Local Expertise
- The First of its kind
- Sustainable
- Scalable

Project Main Output

- To develop core teams of education and multimedia specialists (LITs) at the three universities. (**TOTs**)

- Each university's LIT would work together with the subject matter experts at both the university and school levels to develop high quality e- enabled courses.

Project Main Phases

- The project was designed to have 3 phases over 26 months each of which has very well identified outputs.

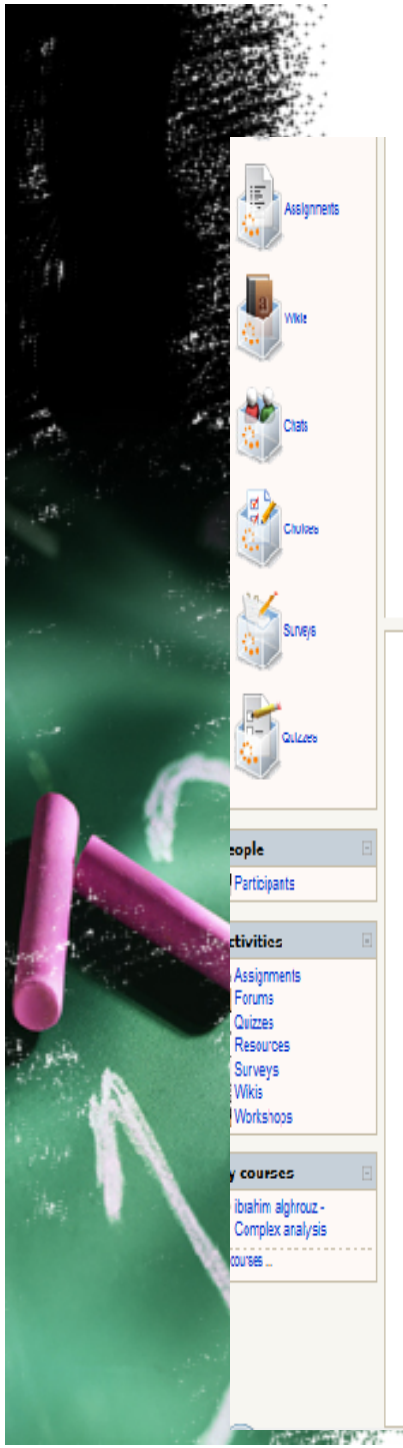
Phase One: Developing LITs at the Universities

- During this phase 12 education specialists had joined an e- enabled training program that enabled them to become trainers in the field e- enabled curricula design, development and delivery.
- 9 multimedia specialists had joined another training program that enabled them to adopt the multimedia modern principles while designing e- enabled courses.

Phase Two: Capacity Building among University Faculty Members

- During this phase 36 university faculty members (12 at each University) were trained by the LIT on e- enabled curricula design, development, delivery and evaluation.

Sample Course



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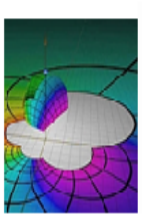
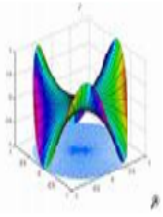
Complex Analysis





Complex analysis is the branch of mathematics investigating functions of complex numbers. It is useful in many branches of mathematics, including number theory and applied mathematics, and in physics. Complex analysis is particularly concerned with the analytic functions of complex variables (or, more generally, meromorphic functions). Because the separable real and imaginary parts of any analytic function must satisfy Laplace's equation, complex analysis is widely applicable to two-dimensional problems in physics.

Please see the following file "course outline".

Course outline

21 February - 27 February

Lecture 1: Defining complex number (online)

Introduction

In this lecture we will study the system of complex numbers and gives the reason why we need the complex numbers. Also, we give the definition of complex number, special complex numbers, equality, sum, difference, product, and quotient of complex numbers.

Lecture Objectives:

On completion you should be able to…

- Distinguish between the real and complex numbers.
- Identify the real and imaginary parts of the complex number.
- Derive the power of the imaginary.
- Derive the addition, subtraction, multiplication and division of complex numbers in Cartesian form.

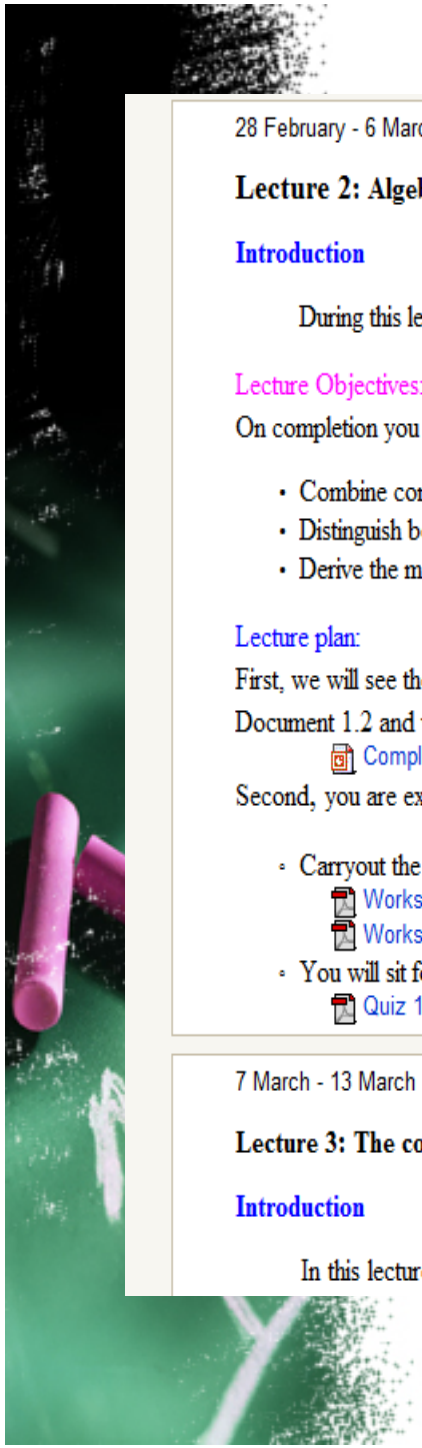
Lecture plan:

First, you are expected to read the following files:

- Document 1.1: "Why complex numbers?"
  - Document 1.1
- Document 1.2: "The complex Plane?"
  - Document 1.2

Second, you are expected to perform the following activities:

- Solve the following assignment.
  - Assignment 1
  - Properties of the complex numbers
  - Modulus of the complex number
- Please do the following activity: " Compare Properties".
  - Comparing Properties



28 February - 6 March

Lecture 2: Algebraic operations on the complex numbers (face 2 face)

Introduction

During this lecture the students will have the chance to discuss the materials that presented in lecture 1. Also, we will perform several activities.

Lecture Objectives:

On completion you should be able to . . .

- Combine complex numbers together.
- Distinguish between the real and imaginary parts of the complex number.
- Derive the modulus and the argument of a complex number.

Lecture plan:

First, we will see the powerpoint presentation " Complex numbers lesson" , then we will open the discussion on the materials that given in Document 1.1, Document 1.2 and we will go over the solutions of the Assignment 1.

Complex numbers lesson

Second, you are expected to perform the following activities:

- Carryout the following worhsheets:
  - Worksheet 1.1
  - Worksheet 1.2
- You will sit for Quiz 1. (just for 15 minutes)
  - Quiz 1

7 March - 13 March

Lecture 3: The complex plane (online)

Introduction

In this lecture we introduce the complex plane; we define the modulus and the argument of complex numbers and give their properties. Moreover, we

Phase Three: Capacity Building among School Teachers

Current Phase

- During this phase 30 teachers would be trained by the LIT on e-enabled curricula design, development, delivery and evaluation.

Thank You