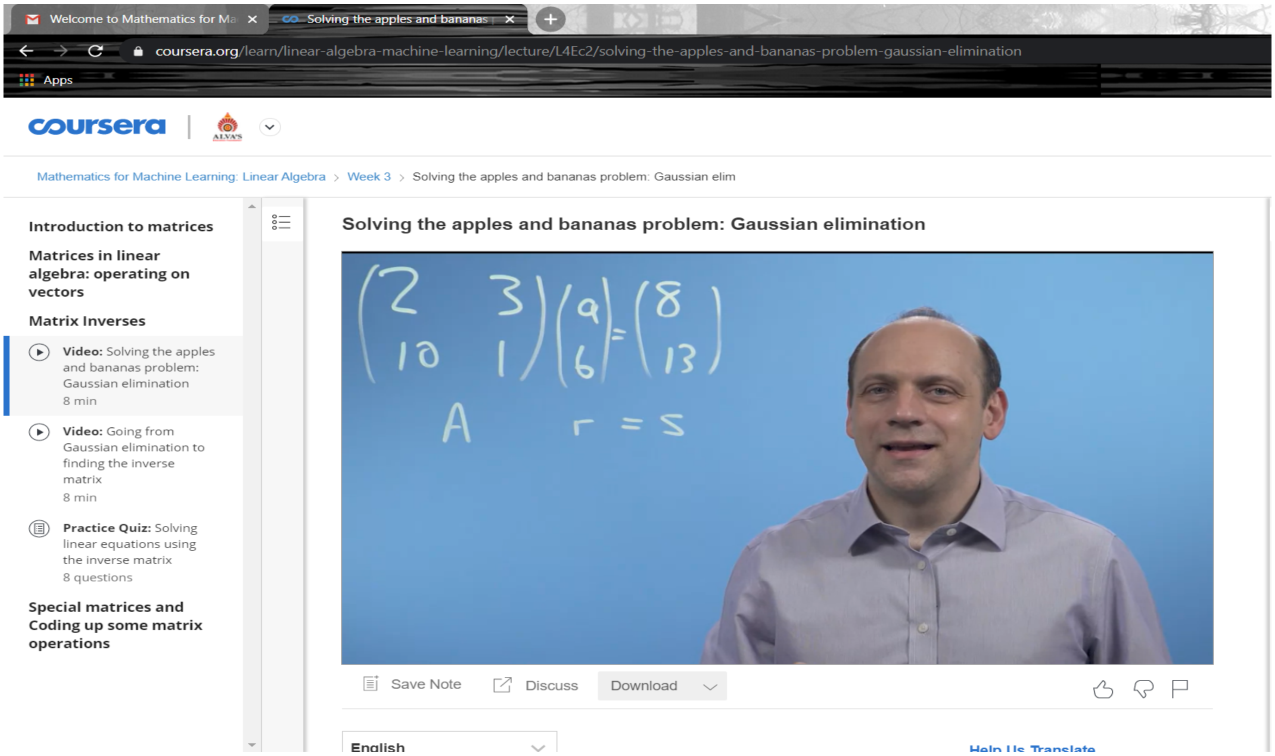
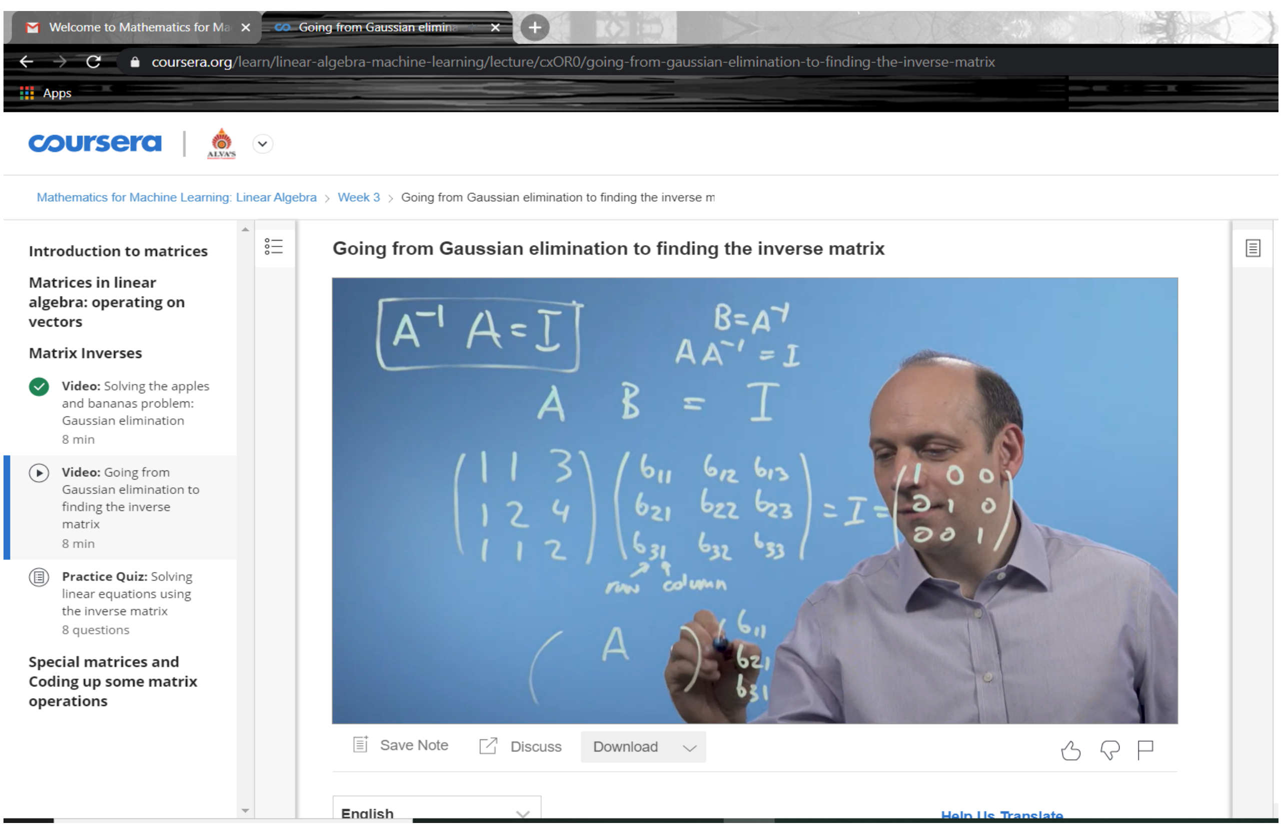
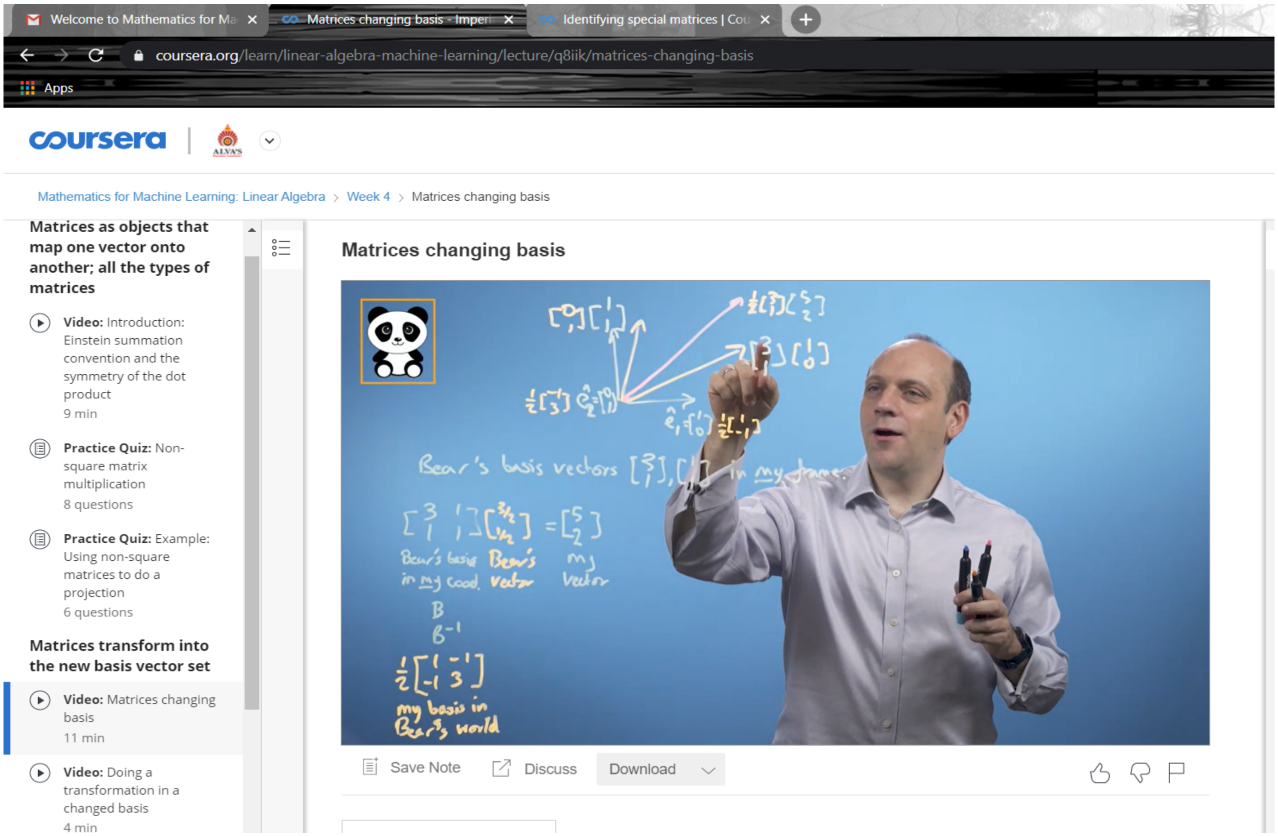
DAILY ASSESSMENT FORMAT

Date:	17-07-2020	Name:	YAMUNASHREE N
Course:	Coursera	USN:	4AL17EC097
Topic:	Mathematics for Machine Learning: Linear Algebra	Semester & Section:	6^{th} SEM and 'B'section
Github Repository:	yamunashree-course		

FORENOON SESSION DETAILS(9.00am to 1.00pm)



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Matrices changing basis - Imper
Identifying special matrices | Cou
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Mathematics for Machine Learning: Linear Algebra > Week 4 > Matrices changing basis
Matrices as objects that map one vector onto another; all the types of matrices
Video: Introduction: Einstein summation convention and the symmetry of the dot product
9 min
Practice Quiz: Non-square matrix multiplication
8 questions
Practice Quiz: Example: Using non-square matrices to do a projection
6 questions
Matrices transform into the new basis vector set
Video: Matrices changing basis
11 min
Video: Doing a transformation in a changed basis
4 min
Matrices changing basis
Save Note
Discuss
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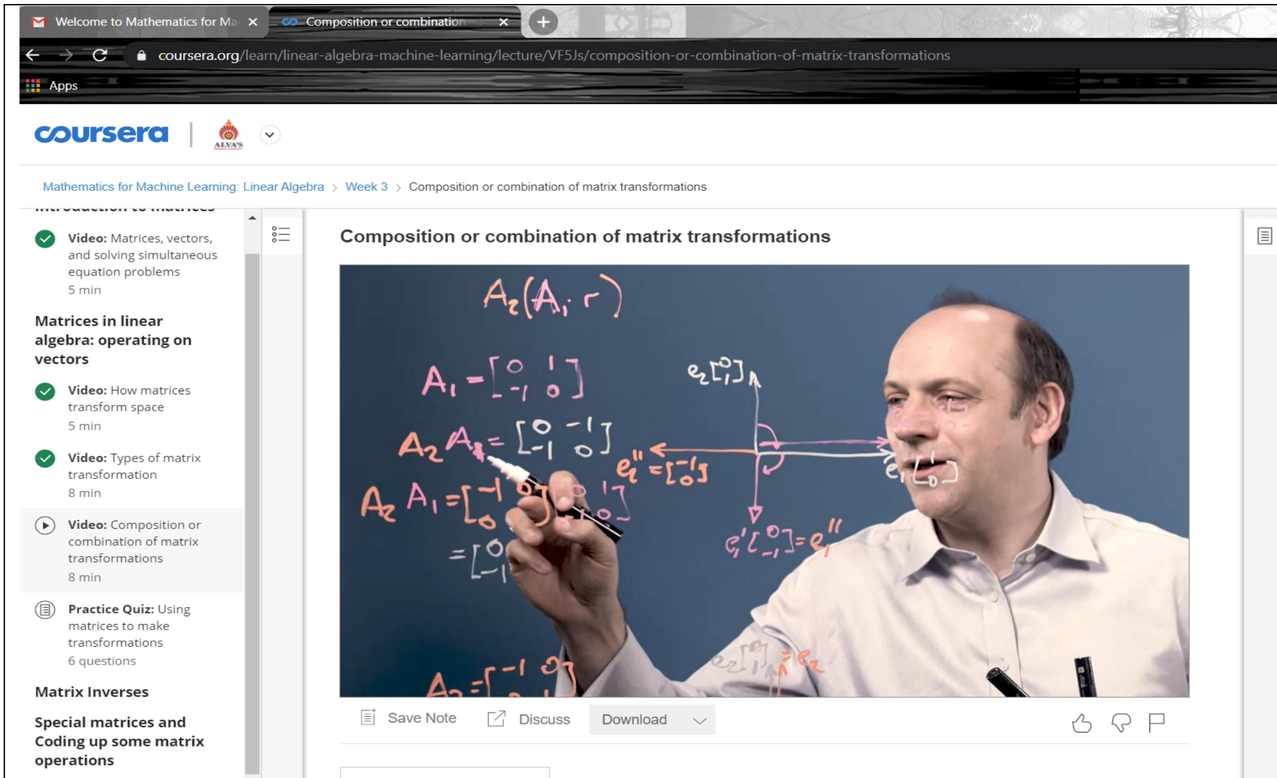

Vectors and matrices :

Scalars, **Vectors and Matrices**

A **vector** is a list of numbers (can be in a row or column), A **matrix** is an array of numbers (one or more rows, one or more columns).

vector in matrix algebra

It can be said that the **matrix algebra** notation is shorthand for the corresponding scalar longhand. **Vectors**. A **vector** is a column of numbers. {\bf a} = \left[\begin{array}{c} a_1 \\ a_2 \\ \vdots \\ a_p \end{array} \right] The scalars a_i are the elements of **vector** {\bf a}.

Row **Matrix** and example

In an m × n **matrix**, if m = 1, the **matrix** is said to be a **row matrix**. Definition of **Row Matrix**: If a **matrix** have only one **row** then it is called **row matrix**. **Examples** of **row matrix**: ... [13025] is a **row matrix**.

Elements of Matrix :

The numbers, symbols, or expressions in the matrix are called its entries or its elements. The horizontal and vertical lines of entries in a matrix are called rows and columns, respectively.

So as long as we stick to matrices of the same size, we do in fact have a vector space. So the long and short of it is that vectors can be matrices and matrices can be vectors. Now, Matrices are vectors - from the vector space of matrices - but not all vectors are matrices.

Scalars, Vectors and Matrices

A vector is a list of numbers (can be in a row or column), A matrix is an array of numbers (one or more rows, one or more columns).

Vectors are a type of matrix having only one column or one row. A vector having only one column is called a column vector, and a vector having only one row is called a row vector. For example, matrix a is a column vector, and matrix a' is a row vector.

A matrix is a collection of numbers arranged into a fixed number of rows and columns. Usually the numbers are real numbers. In general, matrices can contain complex numbers but we won't see those here. Here is an example of a matrix with three rows and three columns: The top row is row 1.

The series primarily consists of a trilogy of science fiction action films beginning with The Matrix (1999) and continuing with two sequels, The Matrix Reloaded and The Matrix Revolutions (both in 2003), all written and directed by the Wachowskis and produced by Joel Silver.

Main point of the Matrix

The Matrix trilogy suggests that everyone has the individual responsibility to make the choice between the real world and an artificial world. Though Neo is the exemplar of free will, fate plays a large role in his adventure. Neo relies on the Oracle, and everything she says comes true in some way.

Application of Matrices

Almost every branch of physics, including classical mechanics, optics, electromagnetism, quantum mechanics, and quantum electrodynamics, matrices are used to study physical phenomena, such as the motion of rigid bodies.

Matrices have also come to have important applications in computer graphics, where they have been used to represent rotations and other transformations of images. is a 2 × 3 matrix. A matrix with n rows and n columns is called a square matrix of order n

Matrices are classified according to the number of rows and columns, and the specific elements therein. (i) Row Matrix: A matrix which has exactly one row is called a row matrix. The above two matrices are row matrices because each has only one row.

Matrices are a useful way to represent, manipulate and study linear maps between finite dimensional vector spaces (if you have chosen basis). Matrices can also represent quadratic forms (it's useful, for example, in analysis to study hessian matrices, which help us to study the behavior of critical points).

The numbers in a matrix can represent data, and they can also represent mathematical equations. Even more frequently, they're called upon to multiply matrices. Matrix multiplication can be thought of as solving linear equations for particular variables.

The term matrix was introduced by the 19th-century English mathematician James Sylvester, but it was his friend the mathematician Arthur Cayley who developed the algebraic aspect of matrices in two papers in the 1850s.

In biology, matrix is the material (or tissue) in animal or plant. Structure of connective tissues is an extracellular matrix. ... It is found in various connective tissue. It is generally used as a jelly like structure instead of cytoplasm in connective tissue.

In the mitochondrion, the matrix is the space within the inner membrane. The word "matrix" stems from the fact that this space is viscous, compared to the relatively aqueous cytoplasm.

The extracellular matrix (ECM) is the non-cellular component present within all tissues and organs, and provides not only essential physical scaffolding for the cellular constituents but also initiates crucial biochemical and biomechanical cues that are required for tissue morphogenesis, differentiation and homeostasis.

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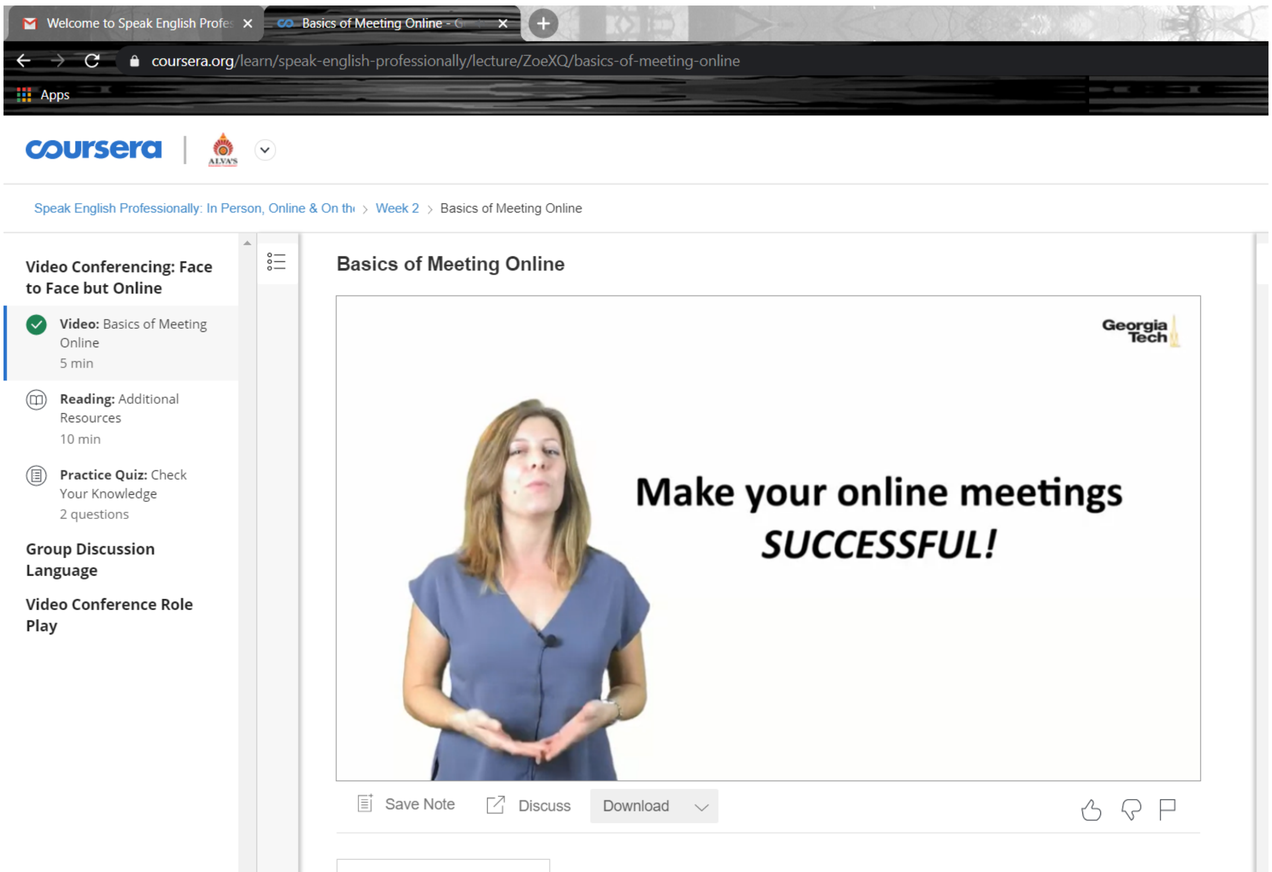

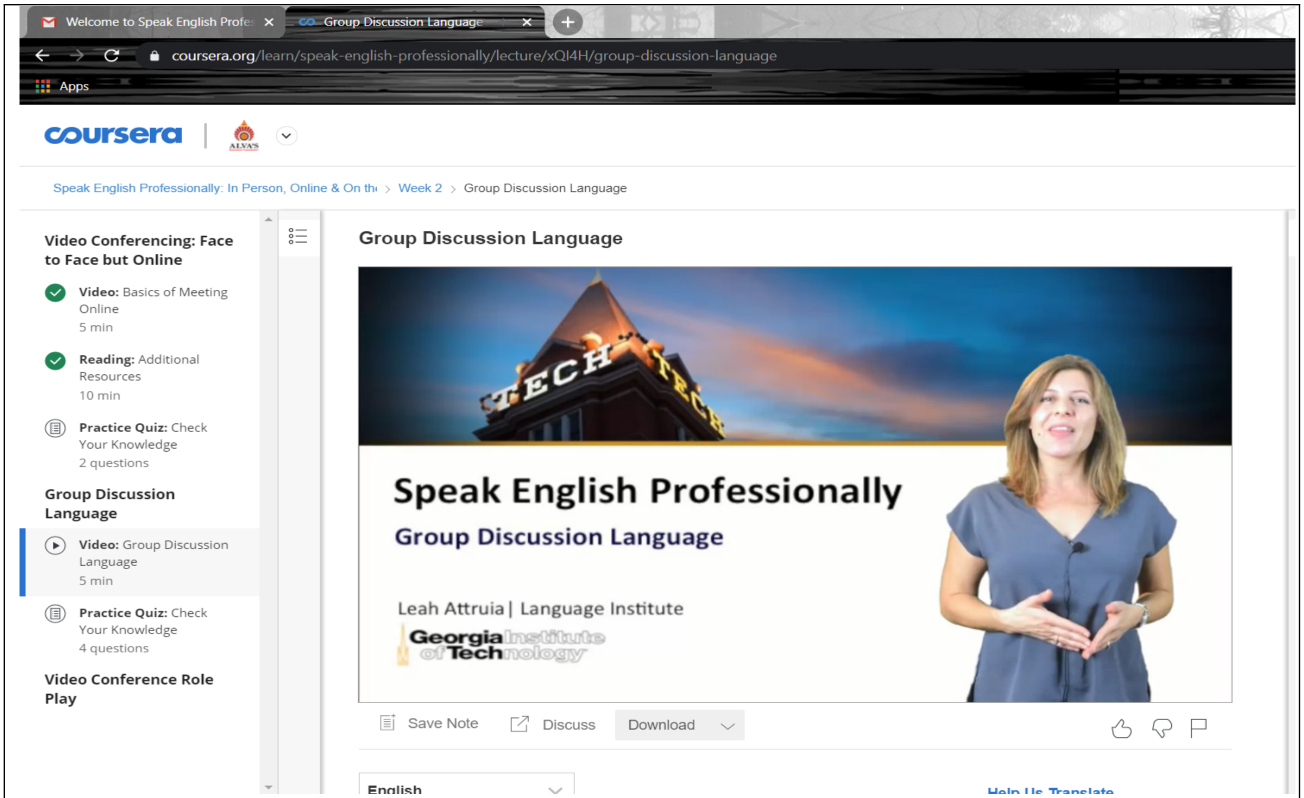

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Reading: Additional Resources 10 min
Practice Quiz: Check Your Knowledge 2 questions
Group Discussion Language
Video: Group Discussion Language 5 min
Practice Quiz: Check Your Knowledge 4 questions
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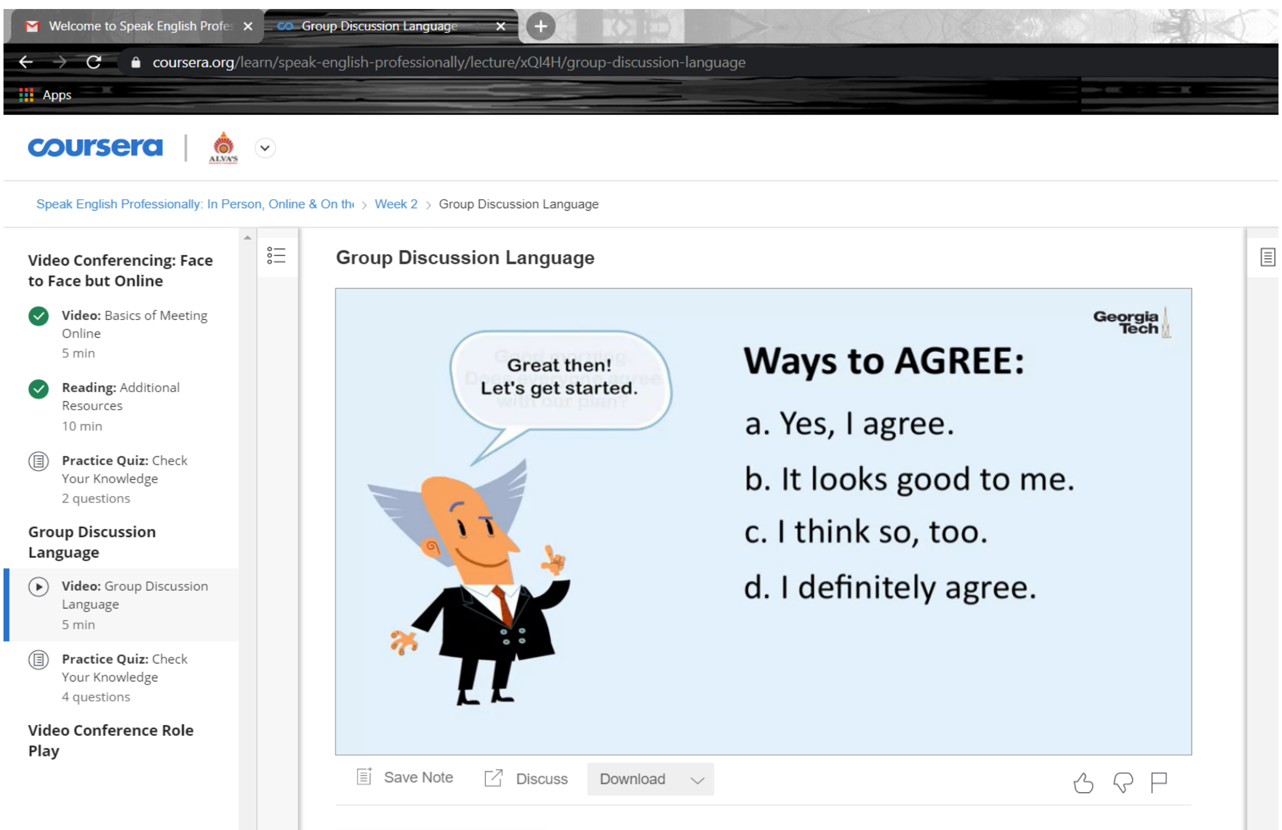

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Speak English Professionally: In Person, Online & On th › Week 2 › Group Discussion Language
Video Conferencing: Face to Face but Online
Video: Basics of Meeting Online 5 min
Reading: Additional Resources 10 min
Practice Quiz: Check Your Knowledge 2 questions
Group Discussion Language
Video: Group Discussion Language 5 min
Practice Quiz: Check Your Knowledge 4 questions
Video Conference Role Play
Group Discussion Language
Georgia Tech
Great then! Let's get started.
Ways to AGREE:
a. Yes, I agree.
b. It looks good to me.
c. I think so, too.
d. I definitely agree.
Save Note
Discuss
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8 Tips to Make Professional English Part of Everyday Routine

- Focus on a profession. “Professional” is a catch-all category.
- Set up an RSS feed. RSS stands for “Rich Site Summary,” but it is often called “Really Simple” instead.
- Use Fluent videos.
- Listen to the radio.
- Always be listening.
- Mix business English with regular English.
- Use a social media aggregator.
- Go face to face.

Speak Like a Professional

- Use short, clear, declarative sentences. Short sentences focus your message and make it easier for your audience to follow.
- Speak in the active tense. Own your actions.
- Stay calm under pressure.
- Speak naturally.
- Say what you mean.
- Focus on what matters to your audience.
- Be specific.

Here are 8 steps to learn grammar easily on your own.

- Learn as many words as you can. To learn grammar easily, the basic element of any language is words.
- Talk to people.
- Watch and learn.
- Ask for corrections.
- Know the parts of speech.
- Look for patterns.
- Practice verb forms.

- Use an app.

The five main components of language are phonemes, morphemes, lexemes, syntax, and context. Along with grammar, semantics, and pragmatics, these components work together to create meaningful communication among individuals.

Grammar and punctuation skills are essential in your classroom writing program. Your students need to be using parts of speech correctly, developing figurative language, extending their use of sentence structure, using punctuation accurately, and further learning how words work.