

Johns Hopkins University
CENTER FOR TALENTED YOUTH

CTYOnline

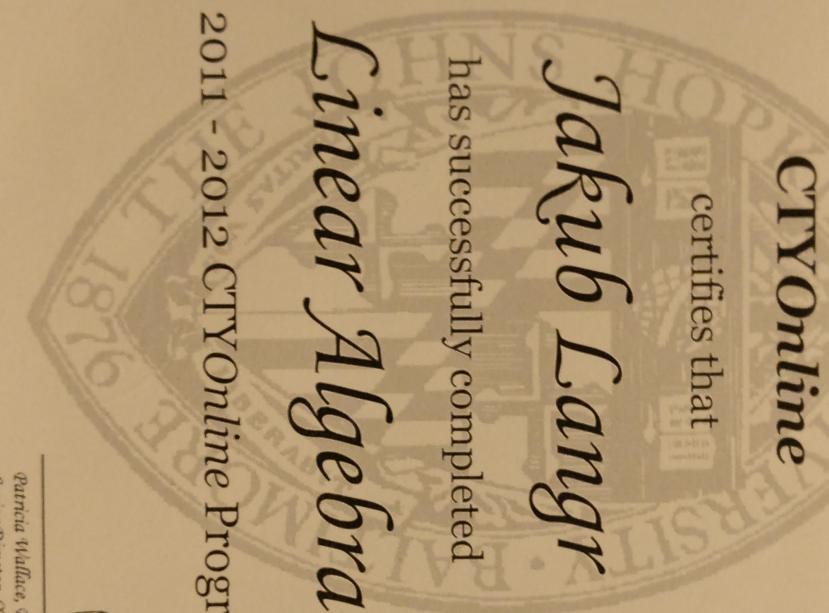
certifies that

Jakub Langer

has successfully completed

Linear Algebra

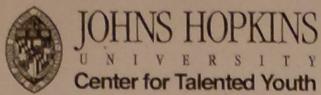
The 2011 - 2012 CTYonline Programs



Patricia Wallace, Ph.D.

Patricia Wallace, Ph.D.
Senior Director, CTYOnline and Information Technology

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Jakub Langr
CTY ID: 1103742
Date: May 18, 2012
Course Completion Document

Linear Algebra

Topics Covered	Test	Homework	Discussion	Comments
Unit 1: Linear Systems	92%	100%	100%	Jakub has successfully completed this challenging course in college level linear algebra. His performance is most impressive, as the course is based entirely on email communication with the instructor, reading a few sections from a book (written in English, not Jakub's first language) and then doing HW sets. Jakub has shown great initiative by taking on this course and tremendous work ethic by completing it while also doing all of his other studies.
Unit 2: Matrix Operations and Determinants	90%	100%	100%	I am very impressed by his mathematical ability and his linguistic abilities. It has been a pleasure working with Jakub and I wish him all the best of luck in his future studies.
Unit 3: Vector Spaces	76%	100%	100%	
Unit 4: Eigenvectors and Orthogonality	99%	100%	100%	
Unit 5: Least Squares and Symmetric Matrices	100%	100%	100%	
Unit 6: Symmetric Matrices and Quadratic Forms	78%	100%	100%	

Grade Summary

Chapter Test Average:	93%
Final Exam:	86%
Overall Score:	91.6%
Course Grade:	A-

Joseph DiNoto

Instructor

Coursework Recommendations

- Multivariable Calculus
- Differential Equations
- Other: