

# COURSE DETAIL

## NUMERICAL LINEAR ALGEBRA

**Country**

United Kingdom - Scotland

**Host Institution**

University of Edinburgh

**Program(s)**

University of Edinburgh

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mathematics

**UCEAP Course Number**

135

**UCEAP Course Suffix****UCEAP Official Title**

NUMERICAL LINEAR ALGEBRA

**UCEAP Transcript Title**

NUM LINEAR ALGEBRA

**UCEAP Quarter Units**

4.00

**UCEAP Semester Units**

2.70

## Course Description

Linear Algebra is one of the most widely used topics in the mathematical sciences. At lower levels students are taught standard techniques for basic linear algebra tasks including the solution of linear systems, finding eigenvalues/eigenvectors, and orthogonalization of bases. However, these techniques are usually computationally too intensive to be used for the large matrices encountered in practical applications. This course introduces students to these practical issues, and presents, analyzes, and applies algorithms for these tasks which are reliable and computationally efficient. The course includes significant lab work using an advanced programming language. The course studies three main topics: the solution of linear systems of equations, the solution of least squares problems and finding the eigenvectors and/or eigenvalues of a matrix.

## Language(s) of Instruction

English

## Host Institution Course Number

MATH10098

## Host Institution Course Title

NUMERICAL LINEAR ALGEBRA

## Host Institution Course Details

<http://http://www.drps.ed.ac.uk/22-23/dpt/cxmath10098.htm>

## Host Institution Campus

University of Edinburgh

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Outline School School of Mathematics

## Course Last Reviewed

2022-2023

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