Course: Mathematics 4 credits: 4

Course code	ELVH17AMATH4
Name	Mathematics 4
Study year	2022-2023
ECTS credits	4
Language	English
Coordinator	J.M. Wilson

Modes of delivery	Lecture
Assessments	Mathematics 4 - Written, organised by STAD examinations

Learning outcomes

The student can use partial derivatives to solve problems in error analysis and optimisation

The student can solve a linear system of equations using row operations and matrix inversion, including finding approximate solutions

The student can use homogeneous coordinates to perform combined affine transformations of vectors

The student can analyse a dynamical system using determinants to find eigenvalues and eigenvectors

The student can fit a low degree polynomial to data using the normal equations, thus finding a least squares solution.

The student can apply the singular value decomposition to a collection of vector valued data points to find the subspace containing most of the variance.

Content

This course presents linear algebra and partial derivatives including some applications important to sensor engineers.

Included in programme(s)

Electrical Engineering Major Sensor Technology

School(s)

Institute of Engineering

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