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## MATH 206. APPLIED CALCULUS AND LINEAR ALGEBRA.

Credits: 3

Offered by: Mathematics and Statistics (Faculty of Science)

This course is not offered this catalogue year.

## **Description**

Linear algebra in real coordinate space: eigenvalues and diagonalization, applications; orthogonality, Gram-Schmidt process, orthogonal projection; spectral theorem for symmetric matrices; singular value decomposition; positive definite matrices. Multivariable calculus: partial derivatives; linear and quadratic approximation; directional derivatives and gradient; classification of extreme values; constrained optimization. Examples and applications in data science.

- Prerequisites: MATH 133, and MATH 140 or MATH 139, and MATH 141.
- Restrictions: Not open to students who have taken or are taking MATH 222 or MATH 223.

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