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Course code: **QE11**

Course title: **Linear Algebra for Quantum Mechanics**

Bibliography:

1. K. Hoffman, R. Kunze, *Linear Algebra*,
Prentice-Hall Inc., New Jersey 1971.
 2. R. A. Horn, C. R. Johnson, *Matrix Analysis*,
Cambridge University Press, New York 1991.
 3. B. Noble, J. W. Daniel, *Applied Linear Algebra*,
Prentice-Hall Inc, New Jersey 1977.
 4. R. Bellman, *Introduction to Matrix Analysis*,
McGraw-Hill Book Company, New York 1970.
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Course content:

Eigenvalues and eigenvectors. Matrix diagonalization. Jordan canonical form. Vector spaces and vector subspaces. Linear dependence and linear independence. Basis of a vector space. Dimension of a vector space. Inner products. Inner product spaces. Best approximation. Orthogonal projection. Gram-Smidt orthonormalization. Linear operators. Adjoint operators. Operators in inner product spaces. Orthonormal operators. Isomorphisms. Normal operators. Transformation of symmetric matrices to diagonal form.

Office hours:

Graduate students may contact instructor for questions at the following hours (or other alternative hour after arrangement) via MS Teams using the link:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_YWF1N2QxOGQtMzVkMy00ZW5LWFY2Q2tMTcyYmYwZjFhOGMy%40thread.v2/0?context=%7b%22Tid%22%3a%228035113d-c2cd-41bd-b069-0815370690c7%22%2c%22Oid%22%3a%228786eecd-3869-40a9-a7ae-73d4bc6c8051%22%7d

Monday	13:00-14:00 (CET)
Tuesday	13:00-14:00 (CET)
Wednesday	13:00-14:00 (CET)