Applied Linear Algebra *

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Calendario: 16 ore, Martedì 16.30-18.30 e Giovedì ore 16.30 - 18.30. Prima lezione il 17 marzo 2009. Aula Oe (Dipartimento di Ingegneria dell'Informazione, Via Gradenigo 6/a).

Prerequisiti: A good working knowledge of basic notions of linear algebra, as e.g. presented in [1].

Tipologia di esame: Grading is based on homeworks or a written examination or both.

Aim: We study concepts and techniques of linear algebra, which are important for applications and computational issues. A wide range of exercises and problems will be presented such that a practical knowledge of tools and methods of linear algebra can be acquired.

Topics:

- *Matrix equations and inequalities*
- *Kronecker products and structured matrices*
- *Least squares problems and singular value decomposition*
- *Computational methods*
- *Perturbation theory*

References:

[1] E. Gregorio and L. Salce. *Algebra Lineare*. Edizioni Libreria Progetto, Padova, 2005.

[2] A.J. Laub. *Matrix Analysis for Scientists and Engineers*, SIAM, Philadelphia, 2005,

[3] C.D. Meyer. *Matrix Analysis and Applied Linear Algebra*, SIAM, Philadelphia, 2000.

[4] L. N. Trefethen and D. Bau *Numerical Linear Algebra*. SIAM, Philadelphia, 2000.

* Corso in comune con la *Scuola di Dottorato in "Ingegneria dell'Informazione"*