Applied Linear Algebra

Prof. Tobias Damm¹, Prof. Harald Wimmer²

¹TU Kaiserslautern, Germany  
Email: damm@mathematik.uni-kl.de
²University of Würzburg, Germany  
Email: wimmer@mathematik.uni-wuerzburg.de

Timetable: 16 hours. Class meets every Tuesday and Thursday from 10:30 to 12:30. First lecture on Tuesday, September 13, 2011. Room Oe (Dept. of Information Engineering, Via Gradenigo 6/a).

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

Examination and grading: 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.

Course contents:

- Kronecker products
- Sylvester and Lyapunov matrix equations
- Least squares problems and singular value decomposition
- Computational methods
- Perturbation theory

References: