Higher Analysis II: Partial Differential Equations

Dorothee Knees, dorothee.knees@wias-berlin.de, Tel. 20372-552
Marita Thomas, marita.thomas@wias-berlin.de, Tel. 20372-305

URL: http://www.wias-berlin.de/people/knees/lectures/PDGlen12/PDGlen12.jsp

Lecture:
Monday, 9-11 a.m. RUD25, 1.013,
Wednesday, 9-11 a.m.RUD26, 0310

Tutorial:

Monday, 11-13 a.m., **NEW:** RUD25, 1.011

Office hours: by appointment

Conditions for obtaining a certificate for successful tutorial (Übungsschein)

- 50% of the oral exercises are "ticked" at beginning of tutorial hours,
- 50% of the written exercises are solved,
- active participation in tutorial (at least one exercise solved at the blackboard in both, first and second half of term),
- the written exercises should be submitted in groups of two.

Contents:

Introduction and mathematical modelling, partial differential equations of first and second order, classification of PDEs, basic solution strategies, weak solutions, Sobolev-spaces

Literatur

[1] L. C. Evans. Partial Differential Equations, volume 19 of Graduate Studies in Mathematics. American Mathematical Society, Providence, RI, 1998.

[2] F. John. Partial differential equations. App. Math. Sciences, Vol. 1. Springer, 1982.

[3] J. Jost. Partielle Differentialgleichungen. Springer, Berlin, 1998.

[4] M. Renardy, R. C. Rogers. An introduction to partial differential equations. Springer, 2004.

[5] J. Wloka. Partielle Differentialgleichungen. Teubner, 1982.

[6] C. Eck, H. Garcke, P. Knabner. Mathematische Modellierung Springer, 2008.

First tutorial: Monday, April 16, 2012