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## Partial Differential Equations

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### Webpage of the course:

[http://www.wias-berlin.de/people/thomas/teaching/PDE17/PDE\\_SS17.jsp](http://www.wias-berlin.de/people/thomas/teaching/PDE17/PDE_SS17.jsp)

### Lectures (Dr. M. Thomas):

Thursday, 9:15-10:45 and 13:15-14:45, HU-Berlin, Rudower Chaussee 25, 2.006, weekly

### Exercise classes (Dr. I. Kmit):

Tuesday, 9:15-10:45, HU-Berlin, Rudower Chaussee 25, 1.012, weekly. Start: 25.04.2017.

**Consultation:** by appointment

### Requirements for certificate for the exercise classes:

- 50% of the oral exercises must be voted,
- 50% of the written exercises must be handed in,
- presentation of at least 2 exercises at the blackboard,
- written exercises to be submitted in teams by two persons each.

**Preliminary dates for oral exam:** 24.07.2017, 26.07.2017, 18.09.2017, 20.09.2017.

### Topics of the course:

Short introduction to PDE-modeling, PDEs of first and second order, types of PDEs, classical solution concepts, distributions, weak solutions, Sobolev spaces.

## References

- [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.