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**Hochschule Konstanz**  
University of Applied Sciences

**Course number: EIM 10160**  
**Adaptive Control Systems**  
**Study Level: Master / Graduate**

**Prof. Dr. Johannes Reuter**  
**Language of Instruction: English**  
**ECTS Credits: 6**

In real world control applications the actual system usually is known with uncertainty, only. Moreover, the parameters of the plant are varying due to different operating modes, wear, change in environmental conditions and so on. Adaptive control systems as well as some modern control methods seek to address this problem by directly or indirectly identifying the plant parameters and/or adapt the control parameters in such a way that a uniform performance of the control loops is achieved.

The course is split in two blocks, an adaptive control part and a part where some modern nonlinear control methods are introduced. The course is organized in such a way that each of the lecture blocks is followed by a lab phase where students will implement and test the control strategies in an experimental setup. Assessment of this course is based on a final oral examination.