

<b>03-IMVP-ECL</b>	<b>Edge Computing Lab</b>
	<i>Edge Computing Lab</i>

**Lehrform** (*teaching format*) / **SWS** (*hours per week*): 3K

**Kreditpunkte** (*credit points*): 6

**Turnus** (*frequency*): usually, each summer term

**Inhaltliche Voraussetzungen** (*content-related prior knowledge/skills*): NONE

**Sprache** (*language*): English

**Lehrende** (*teaching staff*): Prof. Dr. Peter Haddawy, Prof. Dr. Anna Förster, Dr. Thomas Barkowsky

<b>Studiengang</b> ( <i>degree program</i> )	<b>Module</b>	<b>Semester</b>
Informatik (Master)	IMVP	ab 1.Sem.
Digital Media (Master)	DMM-MI	ab 1.Sem.
Systems Engineering I/II (Master)	M07-VT-ESS	ab 1./2.Sem.
Informatik (Bachelor)	(nur <i>Freie Wahl</i> )	

**Lernergebnisse** / *Learning Outcome*:

Students learn how to program embedded devices, how to acquire sensory data, how to gather and store data, and how to design and develop machine learning algorithms for resource-restricted (embedded) devices. After the course, the students are able to design their own embedded devices and applications.

**Inhalte** / *Contents*:

The Edge Computing Lab addresses the complete lifetime of intelligent sensing systems, from hardware programming and sensory data acquisition, through communication networks and data storage techniques to machine learning for resource restricted devices. It covers problems such as embedded programming, sensor acquisition and calibration, wireless technologies and protocols for gathering the data, and most importantly, machine learning algorithms and how to adapt them for resource restricted usage.

This course is a hands-on practical lab, including tutored laboratory exercises and a final project. State of the art hardware and software tools are used.

**Hinweise** (*remarks*): The table lists only the primary / most specific modules to which this course is assigned.