

Module title		SM Code
LabVIEW Projects		LAP
Module lecturer	Faculty	
Prof. Dr. Heiko Unold	Electrical Engineering and Information Technology	
Module language	Number of SWS / WSH	ETCS credits
English/German (both languages are offered for this module)	4 SWS / WSH	5
Teaching format		
Seminar-style instruction in specialized elective modules; project-based practical training		

Semester according to the study plan	
1 st , 2 nd , 3 rd semester (Master)	
Attendance/classroom hours	Additional independent study
60 hours	Independent project phase: 40 hours Documentation: 50 hours
Type of examination / Requirements for the award of the credit points	
2 Presentations and 1 written exam	

Teaching content

The course is structured around projects, with the goal of building a fully functional system using LabVIEW. At the beginning, students choose a project, which they will carry out independently as part of the course. Projects can be selected from a suggested list or proposed by the students themselves. Projects that are expressly encouraged are projects that have a concrete connection to current problems (e.g., in OTH laboratories). The difficulty level and scope of the projects will be adjusted based on prior knowledge; for larger projects, groups of 2–3 students should be formed. The evaluation focuses primarily on the documentation of the software and hardware solution as well as its functionality. A realistic project plan, as well as a presentation on the interim status and a final presentation, will also be included in the evaluation. Supervision of the projects will take place during office hours; if necessary, lectures on relevant topics in optoelectronics or LabVIEW programming will be offered.

Learning objective: Professional competence**After successfully completing this module, students will be able to**

- Pass a LabVIEW test similar to CLAD with a score of at least 40% (1)
- Independently create LabVIEW programs with an efficient structure (e.g., event-driven state machine) (3)

Literature**Recommended reading**

- Georgi; Metin: Einführung in LabVIEW, Hanser-Verlag 2005
- Mütterlein: Handbuch für die Programmierung mit LabVIEW, Springer-Verlag 2007
- Hobbs: Building Electro-Optical Systems, John Wiley & Sons 2009

The numbers in brackets indicate the levels to be achieved: (1)-know | (2)-can | (3)-understand and apply