

Module 692 Smart Living

1	Module number 692	Study program WNB	Semester 6	Offered in ☒WS ☒ SS	Duration 1 semester	Module type Compulsory	Workload (h) 150	ECTS points 5
2	Courses		Teaching and learning form		Contact time		Self-study	Language
	a) Smart Living		Lecture		(SWS) 2	(h) 30	(h) 90	English
	b) Smart Living Lab		Lab		2	30		
3	<p>Learning outcomes and competences After successfully completing the module, students can...</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> ... understand living as a fundamental need with its different aspects. ... understand the basic approach of smart home applications including sensors and actuators. ... explain the broader meaning of Smart Living in comparison to Smart Home. ... describe sustainability considerations in the area of smart living. ... recognize and explain different living concepts. ... understand the basic approach to making everyday life easier for people with physical disabilities <p>Use, application and generation of knowledge</p> <p><i>Use and transfer</i></p> <ul style="list-style-type: none"> ... develop digital solutions to make everyday life easier for people with physical limitations. ... program smart solutions. ... create cost/benefit analyzes for smart living approaches taking sustainability into account. ... analyze and classify potential for transition engineering. ... take different perspectives and points of view towards an issue and make an assessment. ... familiarize with new ideas and subject areas based on basic knowledge <p><i>Scientific innovation</i></p> <ul style="list-style-type: none"> implement modern digitalization applications in the areas of AI and big data <p>Communication and cooperation</p> <ul style="list-style-type: none"> ... actively communicate within an organization and obtain information. ... Present Smart Living content and discuss it professionally. ... justify a developed solution theoretically and methodically. ... communicate and cooperate in the group in order to find adequate solutions for a task at hand. ... form cross-group networks to identify common strengths and use synergies. <p>Scientific self-conception/professionalism</p> <ul style="list-style-type: none"> ... based on the analyzes and assessments made, decision-making recommendations also come from a social and social perspective derive from an ethical perspective. ... interpret the findings of smart living and draw valid conclusions. ... use the knowledge, skills and competencies learned to evaluate Ambient Assisted Living and interpret it according to other aspects. ... reflect and assess your own abilities (compared to a group). 							
4	<p>Content</p> <p>a) Course:</p> <ul style="list-style-type: none"> Sustainability considerations in the area of smart living Analysis of living environment, living areas, living situations: living at home, temporary living (hotel, hospital), living in facilities (senior citizens' home, nursing facility) Ambient Assisted Living: passive support (e.g. voice control of lights), active support (e.g. monitoring of parameters (e.g. vital signs, burglary, safety-critical devices) through sensors Overview of technologies / furnishings (sensors, actuators, necessary company know-how for Industrialization) Costs/Benefits of Smart Living (e.g. cost-benefit assessment, generation of a model, risk analysis, verification of the model with examples) Transition Engineering applied to Smart Living (company analysis, product/service selection, gap analysis planning). 							

	<ul style="list-style-type: none"> • Applications of AI and Big Data <p>b) Lab:</p> <ul style="list-style-type: none"> • Analysis and implementation of smart systems for ambient assisted living. • Programming projects on AI and big data
5	<p>Participation requirements</p> <p>obligatory: none recommended:</p> <p>612 Informatics 1</p> <ul style="list-style-type: none"> • 660 Sustainability 1 • 618 Informatics 2 • 681 Digitalization • 614 Electrical Engineering • 689 Sociotechnics and Technology Acceptance
6	<p>Forms of examination and requirements for awarding credit points</p> <p>a) and b) written exam 60 minutes [graded] b) attestation [ungraded]</p>
7	<p>Further use of the module</p>
8	<p>Module manager and full-time lecturer</p> <p>Prof. Dr.-Ing. Ulrich Nepustil</p>
9	<p>Literature</p> <ul style="list-style-type: none"> • Lecture Skript
10	<p>Last updated 07.02.2025</p>