

# Kursbeschreibungen Wahlpflichtfächer Design

## IMW5.1 Human Machine Interface

Name der/des Hochschullehrenden	Prof. Dr. Martin Luccarelli
Lehrsprache	Deutsch/Englisch
Gesamtworkload	120 h, 60 h Vorlesung, 60 h Self-Study
SWS	4
Art der Prüfung	Teilnahme
Qualifikationsziele	EN: -Exploring the design disciplines involved in HMI systems (industrial and interaction design) to understand their interdependences as well as their role in the design of interactive products
Inhalte des Kurses	EN: -Hardware features and Industrial Design; -Evolution of hardware features; -HMI systems and product usability; -HMI systems and product personality; -HMI systems and material processes; -The designer's approach; -Transmitting product features; -A case study: HMI systems in museums; -HMI systems, wearables and smart clothing; -HMI systems and Interactive materials; -Other Case studies in the field of design and HMI systems.
Lehr- und Lernmethoden	Vorlesung und Übung
Literatur	-M.F. Ashby (2007) Materials Selection in Mechanical Design. Springer Spektrum, Easy Reading. -V. Ferraro (2015) The Designer Approach to Wearable Technologies

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## IMW5.2 Methoden im Design

Name der/des Hochschullehrenden	Prof. Dr. Martin Luccarelli
Lehrsprache	Deutsch/Englisch
Gesamtworkload	120 h, 60 h Vorlesung, 60 h Self-Study
SWS	4
Art der Prüfung	Teilnahme
Qualifikationsziele	EN: -Learning the design process as well as methods that improve the whole process or address specific design steps
Inhalte des Kurses	EN:  -Design & Thinking; -Product versus process oriented design; -Divergent and convergent thinking; -Brainstorming; -Supporting media to design; -Taxonomy of design methods; -Articulation in design; -Universal design; -Bionics; -Eco-design; -Sustainability, design and art; -Teamwork task.
Lehr- und Lernmethoden	Vorlesung und Übung
Literatur	-M.F. Ashby and K. Johnson (2014) Materials and Design. The Art and Science of Material Selection in Product Design. Elsevier -S Barbero and B. Cozzo (2012) Ecodesign. HF Ullmann -B. Imhof and P. Gruber (2016) Built to Grow. Blending Architecture and Biology. Birkhäuser Verlag -Luccarelli, M., Lienkamp, M., Matt, D., & Spina, P. R. (2014). Automotive design quantification: parameters defining exterior proportions according to car segment (No. 2014-01-0357). SAE Technical Paper. -Luccarelli, M., & Di Iorio, M. (2015). DESIGNED FOR, WITH, AND BY KIDS. INTEGRATING CHILDREN'S APPROACH INTO DESIGN TEACHING AND RESEARCH VISUALISATION. In DS 80-9 Proceedings of the 20th International Conference on Engineering Design (ICED 15) Vol 9: User-Centred Design, Design of Socio-Technical systems, Milan, Italy, 27-30.07. 15. -Luccarelli, M., Matt, D. T. and Russo Spina, P. (2015). Modular Architectures for Future Alternative Vehicles. International Journal of Vehicle Design, 67(4), 368-387

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	-Toubia, O. (2006) <i>Idea Generation, Creativity, and Incentives</i> , Marketing Science, 25 (5): 411-425
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## IMW5.3 Gestalterische Grundlagen und Darstellungstechniken

Name der/des Hochschullehrenden	Prof. Dr. Martin Luccarelli
Lehrsprache	Deutsch/Englisch
Gesamtworkload	120 h, 60 h Vorlesung, 60 h Self-Study
SWS	4
Art der Prüfung	Teilnahme
Qualifikationsziele	EN: -Learning to express ideas through shapes and forms as well as building mock-up models to develop and test ideas
Inhalte des Kurses	EN:  -Expressing Emotion through shapes using clay; -From 2d to 3d, origami folding methods using paper; -Reverse thinking, creating moulds using silicon; -Problem-solving and ideation, designing mock-up models using cardboard.
Lehr- und Lernmethoden	Vorlesung und Übung
Literatur	-E. Gjerde (2008) Origami Tessellations: Awe-inspiring Geometric Designs. Taylor & Francis. -B. Di Leonardo-Parker (2015) Six Simple Twists: The Pleat Pattern Approach to Origami Tessellation Design. CRC Press.

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## IMW5.4 3D-Visualisierung

Name der/des Hochschullehrenden	Prof. Dr. Martin Luccarelli
Lehrsprache	Deutsch/Englisch
Gesamtworkload	120 h, 60 h Vorlesung, 60 h Self-Study
SWS	4
Art der Prüfung	Teilnahme
Qualifikationsziele	EN: Learning Concept Modelling with the Software Program Rhinoceros
Inhalte des Kurses	EN: -Preliminary basics of surface modelling software; -Tutorials to learn basic tools; -Project based learning for training.
Lehr- und Lernmethoden	Vorlesung und Übung
Literatur	M.van der Kley (2015) Working with Rhinoceros 5.0. Robert McNeel & Associates