TECHNISCHE HOCHSCHULE LÜBECK

Module: Stereography and Immersive Media

Level	Bachelor	**Short Name**	StuIM
Responsible Lecturers	Prof. Isabella Beyer		
Department, Facility	Electrical Engineering and Computer Science		
Course of Studies	Information Technology and Design, Bachelor		
Compulsory/elective	Compulsory	**ECTS Credit Points**	8
Semester of Studies	4	**Semester Hours per Week**	4
Length (semesters)	1	**Workload (hours)**	240
Frequency	SuSe	**Presence Hours**	60
Teaching Language	German/English	**Self-Study Hours**	180

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Portfolio Exam	**Exam Language**	German/English
Exam Length (minutes)		**Exam Grading System**	One-third Grades

Learning Outcomes

This module is intended to introduce students to immersive media.
The students will gain fundamental experience with the following media channels: VR, AR, 360 interactive video, 360-degree fulldome productions, and stereo. They will create their own transmedia project with meaningful integration of at least two immersive channels.
Students will engage with the conception, design, and production of stereoscopic, immersive, real-time applications.
Product examples will be presented for each media channel based on theoretical, design, and technical fundamentals. This is followed by an introduction to software, production workflows, and sample tools (360 cameras, stereoscopic cameras, Unity, VR). The acquired knowledge will be applied in specific, small, digital products during the practical sessions, based on clearly defined project assignments.
The goal is also to demonstrate ways in which the user experience of flat online media (websites, apps) can be advanced into the next spatial dimension by incorporating the mentioned 360° media channels.

The students know:
• Each media channel (VR, AR, MR, fulldome, stereo) and its added value compared to traditional media
• The technical and design fundamentals and principles of immersive media
• The recording equipment and software for creating immersive fulldome productions and stereoscopic images, and they can operate them
• The industry-specific and economic aspects of productions for different media formats
• The theoretical fundamentals and principles of stereoscopic cinematic storytelling, and they can use these for film analysis and for designing their own linear and non-linear projects
• An introduction to transmedia storytelling and its realization in a prototype

Participation Prerequisites	
The previous section is filled only if there is **exactly one** module-concluding exam.	
Consideration of Gender and Diversity Issues	✔ Use of gender-neutral language (THL standard) ✔ Target group specific adjustment of didactic methods ✔ Making subject diversity visible (female researchers, cultures etc.)
Applicability	Compulsory module in the study program Information Technology and Design Elective in other study programs
Remarks	

TECHNISCHE HOCHSCHULE LÜBECK

Module Course: Stereography and Immersive Media

(of Module: Stereography and Immersive Media)

Course Type	Lecture	**Form of Learning**	Presence
Mandatory Attendance	no	**ECTS Credit Points**	3
Participation Limit		**Semester Hours per Week**	2
Group Size		**Workload (hours)**	90
Teaching Language	German/English	**Presence Hours**	30
Study Achievements ("Studienleistung", SL)		**Self-Study Hours**	60
SL Length (minutes)		**SL Grading System**	

The following section is filled only if there is a course-specific exam.

Exam Type		**Exam Language**	
Exam Length (minutes)		**Exam Grading System**	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	• Theoretical and technical fundamentals of immersive media • Dramaturgical and cinematic fundamentals for immersive media (including fulldome productions, stereo, and transmedia)
Literature	Beyer, I. (2015), ‚360°-Darstellungskonzepte im Wandel der Zeit' Institute for Immersive Media (ED) Jahrbuch immersiver Medien, Die mediatisierte Gesellschaft: Leben und Arbeiten mit immersiven Medien, Coburg: Schüren, pp. 53–62. Beyer, I. (2014), 'Le Passage – an archaeology of spatial transitions', Ubiquity: The Journal of Pervasive Media 3: 1, pp. 51–65, doi: 10.1386/ubiq.3.1.51_1 Buczek, I. (2013) 'Visualization Processes of the Invisible in Scientific Practice', Fullspace-Projektion: Mit dem 360°lab zum Holodeck (X.media.press), Springer-Verlag, Berlin Heidelberg. Buczek, I. (2012), 'Augen im All – Das Making Of einer multimedialen Planetariumsshow als Pionierarbeit und Pilotprojekt in der europäischen 360° Filmproduktionsgeschichte'. FULLSPACE-PROJEKTION- MIT DEM 360°LAB ZUM HOLODECK, Springer Verlag Bernhard Mendiburu: 3D Movie Making: Stereoscopic Digital Cinema from Script to Screen (Focal Press 2009) Adrian Pennington: Exploring 3D: The New Grammar of Stereoscopic Filmmaking (Focal Press, 2012)

	Bernhard Mendiburu: 3D TV and 3D Cinema: Tools and Processes for Creative Stereoscopy (Focal Press, 2011) Holger Tauer: Stereo-3D (Schiele & Schoen, 2010) Ray Zone: 3-D Filmmakers: Conversations with Creators of Stereoscopic Motion Pictures (The Scarecrow Press, 2005) Institut für Immersive Medien: Jahrbuch immersiver Medien 2012: Bildräume - Grenzen und Übergänge (Schüren Verlag, 2012) Susanne Acers: Charlotte A. Davies: Osmose und Ephémère: Zwei immersive virtuelle Umgebungen aus den Jahren 1995 und 1998 (Südwestdeutscher Verlag für Hochschulschriften, 2010) Parfen Laszig: Blade Runner, Matrix und Avatare: Psychoanalytische Betrachtungen virtueller Wesen und Welten im Film (Springer Verlag 2012) Brenda Laurel: Computers as Theatre (Addison-Wesley Longman, Amsterdam, 1993) Janet H. Murray: Hamlet on the Holodeck: The Future of Narrative in Cyberspace (The Mit Press,1998) David East: Media Composer X: Professional Effects and Compositing (Cengage Learning, neueste Auflage) Woody Lidstone: Media Composer X: Professional Picture and Sound Editing (Cengage Learning, neueste Auflage)
Remarks	

Module Course: Stereography and Immersive Media (Practical Training)

(of Module: Stereography and Immersive Media)

Course Type	Practical Training	**Form of Learning**	Presence
Mandatory Attendance	yes	**ECTS Credit Points**	5
Participation Limit		**Semester Hours per Week**	2
Group Size	12	**Workload (hours)**	150
Teaching Language	German/English	**Presence Hours**	30
Study Achievements ("Studienleistung", SL)		**Self-Study Hours**	120
SL Length (minutes)		**SL Grading System**	

The following section is filled only if there is a course-specific exam.

Exam Type		**Exam Language**	
Exam Length (minutes)		**Exam Grading System**	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	• Shoot preparation (script, mood board, storyboard, shooting schedule) • Introduction to the different plug-ins for Maxon Cinema 4D, Adobe After Effects, and Unity3D to enable the realization of immersive productions • Introduction to stereographic camera technology • Production of small prototypes per practical session: a 360 video, a 3D walk-through (Unity), and an AR application
Literature	See lecture description
Remarks	