

## Syllabus: Virtual Reality and Exercise Gaming TU Berlin Summer University 2020 Term 3

### Week 1 July 20<sup>th</sup> - 24<sup>th</sup>

	20	21	22	23	24
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	<b>Welcome Day!</b> Orientation and 1st session (2h)	Welcome session	Field trip to Computerspiele-museum 1	Field trip to fitness start-up 1	No class
11:00 - 12:30		Introduction to VR	Field trip to Computerspiele-museum 2	Field trip to fitness start-up 2	<b>Cultural Program</b>
13:30 - 15:30		Introduction to Exergaming	<b>Cultural Program</b>		
16:00 +					

### Week 2 July 27<sup>th</sup>- 31<sup>st</sup>

	27	28	29	30	31
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Introduction to Unity	Group selection	Prototype concept creation 1	Preparation of presentation	No class
11:00 - 12:30	Setup of development environment 1	Design thinking session	Prototype code development 2	Prototype concept creation 2	<b>Cultural Program</b>
13:30 - 15:30	Setup of development environment 2	Prototype code development 1	<b>Cultural Program</b>	Prototype code development 3	
16:00 +	<b>Cultural Program</b>				

## Week 3 August 3<sup>rd</sup> - 7<sup>th</sup>

	03	04	05	06	07
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Presentation of first prototype	Prototype concept creation 1	Prototype code development 2	Preparation of presentation 1	No class
11:00 - 12:30	Between group feedback session	Prototype concept creation 2	Prototype code development 3	Preparation of presentation 2	
13:30 - 15:30	Design thinking session	Prototype code development 1	Cultural Program	Prototype code development 4	
16:00 +	Cultural Program				

## Week 4 August 10<sup>th</sup> - 14<sup>th</sup>

	10	11	12	13	14
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Presentation of pre-final prototype	User testing 1	Prototype code development 1	Preparation of results 3	Final presentations 1
11:00 - 12:30	Between group feedback session	User testing 2	Prototype code development 2	Preparation of presentation 1	Final presentations 2
13:30 - 15:30	Design thinking session	Preparation of results 1	Preparation of results 2	Preparation of presentation 2	Certificates Ceremony
16:00 +	Cultural Program				

### Key

Lecture	Field Trip or Practical	Assessment	Cultural Program activity*
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\*The cultural program timetable will be emailed to you shortly before your course starts. For more information about the cultural program, and for examples of previous schedules, head here:

[https://www.tu-berlin.de/menue/summer\\_university/cultural\\_program/](https://www.tu-berlin.de/menue/summer_university/cultural_program/)

## Assessment information

You will be assessed in the following ways (see yellow sessions in schedule, if applicable):

- Presentation of first prototype
- Presentation of pre-final prototype
- Final presentation

Your assessments will be weighted as follows:

- Presentation of first prototype 20 %
- Presentation of pre-final prototype 20 %
- Final presentation 60 %

## Grading information

All participants of the TU Berlin Summer & Winter University are required to select their grading option at the time of registration. The two options available are (i) graded or (ii) pass/fail.

All participants who select option (i) graded, will receive a grade under the German grading system. The following table provides an overview of the grading system and equivalent scores for international credit transfers:

Total mark	German grade	English description
More or equal to 95	1,0	Excellent
More or equal to 90	1,3	Very good
More or equal to 85	1,7	Good
More or equal to 80	2,0	Good
More or equal to 75	2,3	Good
More or equal to 70	2,7	Satisfactory
More or equal to 65	3,0	Satisfactory
More or equal to 60	3,3	Satisfactory
More or equal to 55	3,7	Sufficient
More or equal to 50	4,0	Sufficient
Less than 50	5,0	Failed

## Credit Points

ECTS is a point system and European standard developed by the Commission of the European Community. ECTS stands for European Credit Transfer System. The aim is to provide common procedures and guarantee academic recognition of studies abroad. The credit system is based on student workload. All lectures, seminars, excursions and homework count towards the workload. One point is awarded for the equivalent of 25-30 hours of workload.

## Reading list

Here are reading materials which will be used or referred to during the course. You are not required to read these in advance – this is for your information and reference.

All sources below are available either open source, in the TU Berlin library, or will be provided to you directly by your lecturers, during the course.

To search resources available in the TU Berlin library, check here: <https://www.ub.tu-berlin.de/en/searching-for-resources/>

1. Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of communication*, 42(4), 73-93.
2. F. P. Brooks (1999). What's real about virtual reality?, *IEEE Computer Graphics and Applications*, 19(6), 16-27.
3. Oh, Y., & Yang, S. (2010). Defining exergames & exergaming. *Proceedings of Meaningful Play*, 1-17.
4. Boulos, M. N. K., & Yang, S. P. (2013). Exergames for health and fitness: the roles of GPS and geosocial apps.
5. Peng, W., Lin, J. H., & Crouse, J. (2011). Is playing exergames really exercising? A meta-analysis of energy expenditure in active video games. *Cyberpsychology, Behavior, and Social Networking*, 14(11), 681-688.
6. Staiano, A. E., & Calvert, S. L. (2011). Exergames for physical education courses: Physical, social, and cognitive benefits. *Child development perspectives*, 5(2), 93-98.
7. Kojić, T. et al. (2018). Influence of Virtual Environments and Conversations on User Engagement During Multiplayer Exergames, 2018 Tenth International Conference on Quality of Multimedia Experience (QoMEX).
8. Schmidt, S. et al. (2018). Impact of Virtual Environments on Motivation and Engagement During Exergames, 2018 Tenth International Conference on Quality of Multimedia Experience (QoMEX).
9. Göbel, S. et al. (2010). Serious Games for Health - Personalized Exergames, *ACM Multimedia*.
10. Regal, G. et al. (2019). Questionnaires embedded in virtual environments: reliability and positioning of rating scales in virtual environments. *Quality and User Experience*. Springer.
11. Kojic, T. et al. (2019). Influence of Network Delay in Virtual Reality Multiplayer Exergames: Who is actually delayed? 2019 Eleventh International Conference on Quality of Multimedia Experience (QoMEX).
12. Kojic, T. et al. (2019). Influence of UI Complexity and Positioning on User Experience During VR Exergames. 2019 Eleventh International Conference on Quality of Multimedia Experience (QoMEX).