



# Course program and reading list

Semester 2 Year 2023

**School:** Sammy Ofer School of Communications B.A

## Virtual Reality and Embodiment

**Lecturer:**

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<b>Course No.:</b>	<b>Course Type :</b>	<b>Weekly Hours :</b>	<b>Credit:</b>
7675	Seminar	2	2

<b>Course Requirements :</b>	<b>Group Code :</b>	<b>Language:</b>
Final Paper	232767501	English

**Prerequisites**

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- 4048 - Preparatory Course: Practicing Academic Writing
  - 7026 - Quantitative Research Methods
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 Course Description

This seminar introduces students to the psychology of Virtual Reality (VR), specifically embodied VR - a new generation of VR experiences that give users a virtual body representation (avatar) in the virtual environment. This allows for identity explorations and social experiences that are not possible with other media today. The questions that we address in this seminar are critical for a theoretical and empirical understanding of new forms of avatar-based social interactions that (will) take place in the Metaverse.

The seminar focuses on the principles of virtual embodiment and the consequences that emerge from having (or not having) a virtual body in VR on user experiences and the psychological impact on the user. We will discuss virtual embodiment in the context of

immersive journalism, the debate around VR as an 'empathy machine', and how VR can be used as a tool for promoting social change. Based on insights from research on virtual embodiment and studying example VR applications and use cases, we will try to anticipate the still unknown future of the Metaverse and conduct empirical studies to simulate different scenarios and test our assumptions.

### **Assignments and Requirements:**

- Constructive participation in class discussion
- Reading the bibliographical material as preparation for class
- Submission of (bi)weekly assignments
- Mandatory participation in VR/AR experiments (collecting 6 'research credits' = 90 minutes in total)
- Submission of a research report (seminar paper) (individually or in pairs)

### **Course Subjects: (1-13 weekly lesson plan & readings)**

#### **Week 1: Introduction**

- Seminar overview; key terms and concepts: virtual vs. augmented reality; avatars and agents, immersion and presence

#### **Week 2: Body ownership illusions and the impact of virtual self-transformations**

- *Reading assignment:* Farmer & Maister, 2017
- *Viewing assignment:* Mel Slater, Transforming the self through virtual reality. Frontiers in VR Online Lecture Series, May 11, 2020. <http://shorturl.at/sAS16>
- *Bonus assignment:* Demonstration of the rubber-hand illusion

#### **Week 3: Immersive journalism**

- *Reading assignment:* Baía Reis et al., 2018
- *Viewing assignment:* Talk by Nonny dela Pena; examples of VR documentaries
- *Bonus assignment:* Converting a conventional news report into an immersive journalism experience

#### **Week 4: VR - the ultimate empathy machine?**

- *Reading assignment:* Cummings et al. 2021
- *Viewing assignment:* Chris Milk, How virtual reality can create the ultimate empathy machine. TED talk, 2015. <http://shorturl.at/nIMTY>
- *Bonus assignment:* Presentation of a VR empathy project

#### **Weeks 5: Metaverse**

\* This class meeting will take place in the metaverse

- *Reading assignment:* Lee et al., 2021
- *Viewing assignment:* Meta Keynote - Mark Zuckerberg explaining metaverse: <https://www.youtube.com/watch?v=YJQ6z1EsLbg>

## Weeks 7-12: Seminar project work

- How to conduct a literature review
- How to find a research question and hypotheses
- How to design an empirical study (experiment, survey or interview)
- How to analyze data (quantitatively or qualitatively)
- How to write a research report (seminar paper)

## Week 13: Final presentations of seminar research projects

- Student presentations
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### Course Goals

Besides getting familiar with concepts and theories of virtual reality and embodiment, students will practice basic research skills by conducting a literature review, designing an empirical study, collecting and analyzing data, and writing a research report in a step-by-step guided research process.

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### Grading

The grade for the seminar paper will be the main factor determining the final grade.

Extra points for the final grade can be earned through completion of (optional) bonus assignments – only when submitted by the defined deadline.

Point deductions: (Bi)weekly assignments will be graded as pass or fail. Failed assignments can be re-submitted. For each missing research credit (for participation in VR/AR experiments) and each missing assignments or failed assignment that is not resubmitted, one point will be deducted from the final grade.

*Submission deadline of the seminar paper: September 1st, 2023*

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### Reading List

#### Mandatory reading:

Baía Reis, A., & Coelho, A. F. V. C. C. (2018). Virtual Reality and Journalism: A gateway to conceptualizing immersive journalism. *Digital Journalism*, 6(8), 1090–1100.

Cummings, J. J., Tsay-Vogel, M., Cahill, T. J., & Zhang, L. (2021). Effects of immersive storytelling on affective, cognitive, and associative empathy: The mediating role of presence. *New Media & Society*, 1–14.

Farmer, H., & Maister, L. (2017). Putting ourselves in another's skin: Using the plasticity of self-perception to enhance empathy and decrease prejudice. *Social Justice Research*,

30(4), 323–354.

Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ... & Hui, P. (2021). All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda. *arXiv preprint arXiv:2110.05352*.

Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing our lives with immersive virtual reality. *Frontiers in Robotics and AI*, 3, 74.

Recommended articles (for further reading):

Barbot, B., & Kaufman, J. C. (2020). What makes immersive virtual reality the ultimate empathy machine? Discerning the underlying mechanisms of change. *Computers in Human Behavior*, 106431.

De la Peña, N., Weil, P., Llobera, J., Giannopoulos, E., Pomés, A., Spanlang, B., ... & Slater, M. (2010). Immersive journalism: immersive virtual reality for the first-person experience of news. *Presence*, 19(4), 291–301.

Hasler, B. S., Landau, D., Hasson, Y., Schori-Eyal, N., ... & Friedman, D. (in press). Virtual reality-based conflict resolution: The impact of immersive 360° video on changing view points and moral judgment in the context of violent intergroup conflict. *New Media & Society*.

Irom, B. (2018). Virtual reality and the Syrian refugee camps: Humanitarian communication and the politics of empathy. *International Journal of Communication*, 12, 23.

Markowitz, D., & Bailenson, J. (2019). Virtual reality and communication. *Human Communication Research*, 34, 287–318.

Shin, D., & Biocca, F. (2018). Exploring immersive experience in journalism. *New Media & Society*, 20(8), 2800–2823.

Steed, A., Pan, Y., Watson, Z., & Slater, M. (2018). “We Wait”—The impact of character responsiveness and self embodiment on presence and interest in an immersive news experience. *Frontiers in Robotics and AI*, 5, 112.

Recommended books:

Bailenson, J. (2018). *Experience on demand: What virtual reality is, how it works, and what it can do*. WW Norton & Company.

Lanier, J. (2017). *Dawn of the new everything: Encounters with reality and virtual reality*. Henry Holt and Company.