

“VO Who Cares? Soziale Verantwortung in Wissenschaft und Technologieentwicklung”

(all TU Wien students, 3 ECTS, elective, part of the “Certificate Gender & Diversity Competence”)

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Aims & Background of the Course

The course is part of the “Certificate Gender & Diversity Competence” since Summer Semester 2023. Many students also attend the lecture as an elective course for other study programs. The audience is mixed (interdisciplinary, mostly BA and MA students, sometimes PhD students).

The aim of this course is to convey a basic understanding of how science, technology and society interrelate, with a focus on what responsibilities come with science and technology development (integrity, ethics, considering broader societal implications).

I introduce myself as based in the fields of Science and Technology Studies (STS) and Responsible Research and Innovation (RRI).

Expectations for workshop / Questions I am interested in

- Exchange on how to keep students engaged in larger lecture halls for S-T-S aspects
- Exchange on how to best compile course material (slides, texts) that is useful for an exam-based evaluation
- Exchange on whether Responsible Research and Innovation (RRI) is (still) a good reference concept for teaching S-T-S

Cornerstones of Teaching Concept

Format: lecture (“Vorlesung”) with exam-based evaluation; the exam is based on slides & literature, the lecture includes interactive moments with discussing current controversial examples related to S&T, brainstorming, mappings, and discussing literature

Competences:

- Understand different dimensions of responsibility (integrity, ethics, considering societal implications) and what they mean in practice (Felt et al. 2018, Kolstoe/Pugh 2023, Sigl/Fochler 2024)
- Being able to read (short) scientific texts related to lecture topics
- Being able to reflect on how science & technology are shaped by social/societal aspects
- Being able to critically reflect on the pro-technological-innovation bias related to solving social-environmental problems (Godin/Vinck 2017)
- Understand science, technology and innovation policies, and the governance of universities in historical context
- Understand science communication and inter-/transdisciplinary collaboration in research as practicing societal responsibility (Vienni-Baptista et al. 2023)

Content examples: cases of (unintended) negative outcomes of technologies (e.g., AI/robotics applications), historical perspective to how risks in other fields have been contained (medical research & system of clinical trials)

Scientific concepts: Co-production - Socially robust knowledge - Responsible Research and Innovation (RRI) – Responsible Research Ecosystems – Societal trust in emerging technologies – Mode-1/2 – Triple Helix – Ethics by Design

Semesterplan

- > 1. Who Cares? - Arten von „Verantwortung“ in Wissenschaft und Technologieentwicklung - 08.10.2024
- > 2. Haben Technologien eine politische Agenda? - 15.10.2024
- > 3. Vertrauen in die Wissenschaft ODER: „Post-Truth“ vs. „Pluriversität“ - 22.10.2024
- > 4. Diskriminierende Biases & Epistemische Gerechtigkeit - 29.10.2024
- > 5. The Problem of Many Hands: Kollektive soziale Verantwortung in der Wissenschaft - 05.11.2024
- > 6. Helfen Wissenschaft & Technologie bei der Lösung gesellschaftlicher Probleme? Und wenn ja, wie? - 12.11.2024
- > 7. Universitäten im Spannungsfeld zwischen alten Konventionen und neuen Anforderungen - 26.11.2024
- > 8. Die politische Ökonomie der Technologie-Entwicklung - 10.12.2024
- > 9. Was bedeutet Demokratie in Wissens- und Innovationsgesellschaften? - 17.12.2024
- > 10. Wissenschaftskommunikation, Public Engagement, und Academic Citizenship - 14.01.2024
- > 11. Neue Kooperationen für soziale Verantwortung (Inter- und Transdisziplinarität) - 21.01.2024

There will be an accompanying practice course (“Übung”, 3ECTS) in the summer semester that engages students in case-based group work related to this lecture (cf. Inguaggiato 2023)

What Works Really Well

Readings as add-on to Lectures

Interested students get the opportunity to immerse in certain questions/issues
At least some students come prepared with their own questions and observations, which enriches the discussions in class.

Downside of readings

Readings seem to motivate some students who want to think deeper into issues, but potentially scare off wider audience

Wordclouds generated through online tool (slido)

Aim:
engage students in reflections of introduced concepts
Example: Students are asked to think about their favourite Sci-Fi movie. These movies are then used to talk about what kinds of societies are imagined in these movies, and how that relates to socio-technical systems

Watching short videos

Aims:

- Diversion from otherwise lecture-focused course
- Convey that I am not the only scholar out there interested in these questions but that S-T-S is an actual research field
- Capture debates as they are carried-out outside the classroom.
- Bring in more (situated) perspectives into the (often) quite white, middle-class-based classroom

Example Video:

Joy Buolamwini: The Coded Gaze: Bias in AI (<https://www.youtube.com/watch?v=eRUEVYndh9c&t=469s>)
Ruha Benjamin: Is Technology Our Savior — or Our Slayer? | TED https://www.youtube.com/watch?v=QO3nY_u6hos

References:

Felt, U., Fochler, M., Richter, A., Schroeder, R., & Sigl, L. (2018). How to weave societal responsibility into the fabric of universities. Reflections - Blog of the STS Department at the University of Vienna.
Godin, B. & D. Vinck (Eds.) (2017), Critical Studies of Innovation. Alternative Approaches to the Pro-Innovation Bias. Edward Elgar.
Inguaggiato, G., Labib, K., Evans, N., Blom, F., Bouter, L., & Widdershoven, G. (2023). The Contribution of Moral Case Deliberation to Teaching RCR to PhD Students. Science and Engineering Ethics, 29(2), 7.

Kolstoe, S. E., & Pugh, J. (2023). The trinity of good research: Distinguishing between research integrity, ethics, and governance. Accountability in Research, 1-20.
Sigl, L., & Fochler, M. (2024/forthcoming). Towards a “hinterland” for doing relevance. A typology of practices and competencies to guide the development of more relevant research and career paths. Minerva.
Vienni Baptista, B., Fletcher, I., & Lyall, C. (2023). Foundations of Interdisciplinary and Transdisciplinary Research: A Reader. Bristol University Press.