

HOCHSCHULE ANSBACH

Program Handbook

Science Communication
Master

Faculty of Media

SPO SCO/ HSAN 20252 (2024)

Winter Semester 2026

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Table of Contents

1st semester required modules

Understanding Research 3
SciComm & Society 6
Basic Comm Tools 9
Science Journalism 11
Strategic Sci Comm 13

1st semester elective modules

Elective Module: Covering Sustainability 16
Elective Module: Visual Science Communication 19
Elective Module: AI-powered Innovation Management 22

2nd semester required modules

Issues in contemporary science 25
Audiovisual Production 27
Data Storytelling 29
Exhibitions, Games, SciArt 31
Public Engagement 33
Evidence-based SciComm 36

3rd semester required modules

Applied Research 38
Colloquium 40
Master‘s Thesis 42

Understanding Research

Module brief title:	Understanding Research	SPO-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester:		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:	48 h	
	E-Learning:	0 h	
	Self study:	102 h	
	Total:	150 h	
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completion of this module, students will be able to

- explain the “scientific method” and its philosophical and historical roots;
- discuss the two cultures debate and how natural sciences differ from social science and humanities;
- describe how scientists really do their work and how that differs from public perception of science;
- assess the quality of research studies in terms of study design;
- assess the limits of scientific inquiry and understand what the reproducibility crisis means for what science can and cannot do;
- explain the proper use, limitations and challenges of statistics in science;
- understand traditional and non-traditional ways of scientific publishing;
- address the ethics of research and innovation, for example in dual-use;
- describe science-society relationships like trust and the factors that affect this relationship;
- understand the role of science diplomacy.

Module content:
Scientists and science communicators share the same goal: Find out and communicate the truth about the world. This module covers how scientists try to achieve that goal. It introduces students to the workflows, players, challenges, and ethics of science and the ways they interact with global society, covering all the steps from generating research data to publishing them. It also discusses the many ways each of these steps can fail and why, and what we can do about that: • The philosophical and ethical underpinnings of science • How do scientists really work? • What makes science special as a way to find "truth"? • Science diplomacy • Study design and statistics • Problems with study quality • How research is funded and published • What do people think about science and scientists? • One science? C.P. Snow's Two Cultures and beyond • The science-society interface: Is trust in science always justified? And what makes people trust it? • The COVID-19 pandemic: A case study of extreme uncertainty (in contrast to climate change) • Research ethics and dual use
Assessments:
Project work (10-20 pages): Q&A with a researcher who dealt with problems with the scientific process or a science journalist who worked on a project communicating the scientific process and its limitations.
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
• Snow, C.P. (1959): The Two Cultures • Kuhn, T. (1962): The Structure of Scientific Revolutions • Latour, B. & Woolgar, S. (1979): Laboratory Life - The Construction of Scientific Facts • Ioannidis, J.P.A. (2005): Why Most Published Research Findings are False • Mooney, C. (2005): The Republican War on Science • Pielke, R.A. (2007): The Honest Broker - Making Sense of Science in Policy and Politics • Evans, I. (2011): Testing Treatments - Better researh for better healthcare • Gigerenzer, G. (2014): Risk Savvy - How to Make Good Decisions • von Bubnoff, A. (2016): Experimental Quality (Burroughs Wellcome Fund) • Pinker, S. (2018): Enlightenment Now - The Case for Reason, Science, Humanism, and Progress. Viking • Gigerenzer, G. (2019): Calculated Risks - How to Know When Numbers Deceive You

- Rothman, J. (2020): How Does Science Really Work? *The New Yorker*.
- Strevens, M (2020): The Knowledge Machine: How Irrationality Created Modern Science

SciComm & Society

Module brief title:	Science Communication & Society	SPO-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- explain what science communication is and how it came about;
- understand differences in science communication between the global north and south;
- explain how the role of science communicators and journalists changed over time;
- address ethical challenges in science communication;
- understand how the role of science communicators can affect people's trust;
- understand the challenges of communicating uncertainty and risk, climate, or social sciences & humanities;
- assess the role of social media in science communication;
- understand what causes the spread of misinformation and how to prevent it.

Module content:
This module gives a high-level view of the world of science communication and its interaction with society. Topics covered include: • Science communication definition and history • Media systems in general; European broadcast media • US & UK media systems; BBC as a model for the world • Ethics and epistemology of journalism: Is there a "journalistic method?" • History and landscape of science journalism (including discussion of PUS & PEST in the UK; gee-whiz versus watchdog role of journalists in the US) • Climate change communication • Communicating social sciences and humanities: A special case? • Understanding Misinformation: How does it come about and how do we deal with it? • From BSE to COVID-19 and nutrition: How (not) to communicate uncertainty • The Science of Science communication: What is it and how is it useful? • "Trust me, I'm a journalist." How do we get people to trust journalists more?
Assessments:
Oral presentation (15 min) on the history and specifics of the science communication & journalism environment of a selected country.
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
• *New York Times* editorial board (1979): The Meaning of Three Mile Island • Boykoff, M.T. (2004): Balance as bias: Global Warming and the US Prestige Press • Broks, P. (2006): Understanding Popular Science • Stilgoe, J., Irwin, A., Jones, K. (2006): The Received Wisdom: Opening up expert advice • Bucchi, M. & Trench, B. (eds.) (2014): Routledge Handbook of Public Communication of Science and Technology • Kahan, D.M. (2017): Misconceptions, Misinformation, and the Logic of Identity-Protective Cognition • Kahan, D.M. (2017): Culturally antagonistic memes and the Zika virus • Gascoigne, T. *et al.* (2020): Communicating Science: A Global Perspective • Krause, N.M. *et al.* (2023): Collateral damage from debunking mRNA vaccine misinformation • Scherling, J. (2023): The Use of Certainty in COVID-19 Reporting in Two Austrian Newspapers • Ballo, R. (2024): Socially-distanced science- how British publics were imagined, modelled and marginalised in political and expert responses to the COVID-19 pandemic • Post, S. (2024): The Honest Broker versus the Epistocrat

- Pasquetto, I.V. *et al.* (2024): Misinformed about misinformation: On the polarizing discourse on misinformation and its consequences for the field
- Budak, C. (2024): Misunderstanding the harms of online misinformation
- Kaldewey, D. (2025): Die Krise der Faktizität, revisited - Wissenschaftsskepsis und Wissenschaftskommunikation im Kontext der COVID-19-Pandemie
- Talpos, S. (2025): Did the battle against misinformation go too far? *Undark Magazine*
- Taubes, G. (2025): Signs of Bad Science.

Basic Comm Tools			
Module brief title:	Basic Comm Tools	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completion of this module, students will be able to

- conduct successful and efficient interviews;
- understand and overcome psychological obstacles to communication;
- recognize and improve bad writing;
- edit their own and others' texts to improve them in terms of clarity, brevity and word choice;
- adapt their communication to different audiences;
- compose basic text versions of different journalistic genres like news, features, Q&As, and Op-Eds/essays;
- understand the specific challenges of creating audiovisual content;
- understand storytelling strategies;
- create social media posts and give presentations;
- use AI as a research and communication tool and understand its limits.

Module content:
No matter where science communicators will later work, there are certain basic elements to communication they will need to succeed. This module covers these basics, with a focus on writing. Topics covered include: • What's good communication? What's bad communication? • The raw material of science communication: The interview (interview exercises) • Strategies for writing well (esp. brevity and clarity) • Journalistic story structures I: News, features, Q&As • Journalistic story structures II: Essays & Op-Eds (finding your voice) • Social media communication • Audiovisual communication: How is it different from text? • Fact checking: Why it is important and how to do it • Automation and AI for fact checking, research and communication • Special case policy and diplomatic communication • Speaking: Presentations and moderating discussions • Some principles of storytelling
Assessments:
Project work (10-20 pages): Reported news piece and personal essay / OpEd on a scientific topic.
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
• Brady, J. (1976): The Craft of Interviewing • Scanlan, C. (1999): Reporting & Writing: Basics for the 21st Century • Nieman Storyboard (1995-2025): Storycraft section • Stepp, C.S. (2000): Writing as Craft and Magic • Pinker, S. (2014): The Sense of Style: The Thinking Person's Guide to Writing in the 21st Century • Rich, C. (2016): Writing and Reporting News: A Coaching Method • Nijhuis, M. (2016): Science Writers' Essay Handbook • Olson, R. (2018): Don't Be Such a Scientist • Borel, B. (2023): The Chicago Guide to Fact-Checking

Science Journalism			
Module brief title:	Science Journalism	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Deborah Cohen		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completion of this module, students will understand the ethical, epistemic and practical challenges to the journalistic approach to science communication ("communicate to inform"), especially what it means to keep a critical distance between to the science and scientists they cover. They also learn how to pitch, report and write a journalistic feature story on a scientific topic. As a result, they will be able to

- understand potential conflicts of interest researchers may have with respect to the research they do;
- critically assess what stories / studies are worth coverage in the first place;
- compose a pitch of their story idea to an editor;
- communicate uncertainty and the scientific process as an honest broker without under- or overstating scientific findings;
- find and include all relevant perspectives and context;
- identify, approach and interview all relevant sources for their project;
- effectively use AI when it makes sense, for example for transcribing interviews or helping with literature research;
- adapt their reporting to challenges specific for certain fields like climate & environment; medicine; GMOs; AI; dual-use technologies;

- know how to "follow the money" i.e. uncover financial or other conflicts of interest when covering scientific studies;
- ensure their reporting is reliable by pre-publication fact checking, or by addressing biases or conflicts of interest.

Module content:

Students learn the history of science journalism and what distinguishes the journalistic approach ("communicate to inform") from the strategic approach ("communicate to persuade"). They produce a feature story from the initial idea and pitch to the first draft. They also learn the business side of science journalism and what they need to sell their stories. Topics covered include:

- Finding and pitching stories
- Outlining, reporting, writing and fact checking complex science stories
- Investigative techniques
- Journalism business models including freelancing financials and the client landscape: Where are the publications you can pitch projects to and who finances them?
- Multilancing: How to package the same story for different formats and media
- Going long: Pitching and reporting a book project
- AI tools in journalism
- Challenges when reporting on certain fields like climate & environment; medicine; GMOs; AI; dual-use technologies
- The role of science journalists: Neutral arbiters or activists? What about strategies like solutions journalism? Can and should journalists be "objective"?
- Ethical questions like COIs when covering the same topic as a strategic and journalistic communicator
- How to uncover and communicate financial or other interests of sources when covering scientific studies

Assessments:

Project work (10-20 pages): Reported feature story on a scientific topic.

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

- Brady, J. (1976): The Craft of Interviewing
- Scanlan, C. (1999): Reporting & Writing: Basics for the 21st Century
- Writers of Scilance (2013): The Science Writers' Handbook: Everything You Need to Know to Pitch, Publish, and Prosper in the Digital Age
- Gross L. (2018): The Science Writers' Investigative Reporting Handbook: A Beginner's Guide to Investigations
- Brooks, B.S. & Pinson, J.L. (2023): The Art of Editing in the Age of Convergence. Esp chapter 2 on journalistic objectivity

Strategic Sci Comm			
Module brief title:	Strategic SciComm	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Sean Mattson		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completion of this module, students will be able to

- assess what makes communication strategic ("communicate to persuade") as opposed to the journalistic approach ("communicate to inform");
- address ethical challenges in strategic communication like potential conflicts of interest when mixing journalistic and strategic communication roles;
- interview scientists to create strategic communication products;
- create strategic communication material including press releases, short professional bios, key talking points, social media messages, media pitches;
- assess strategic communication career paths;
- engage with scientists to improve strategic science communication;
- interact with science journalists and adapt science communication products to their needs;
- assess mainstream media news cycles and coverage for their quality;
- critically evaluate strategic science communication products and learn "best practices" and how to apply them;

- understand shifting landscapes in global science communication and how this impacts strategic science communicator roles;
- improve writing and editing skills (including self-editing), and verbal communication skills;
- understand how to apply strategic science communication theory in practice;
- build professional relationships with scientists and effectively address scientists' concerns related to science communication;
- understand and apply journalism skillsets to strategic science communication.

Module content:

Module components include lectures and exercises related to strategic science communication for governments and international organizations; NGOs; thinktanks; Ad/PR agencies; companies, and universities. Topics covered include:

- Strategic science communication: purpose, professional roles, and differences from science journalism
- Message framing, communication objectives, and strategy development
- Journalistic standards, storytelling, and clear science writing for non-expert audiences
- Working with scientists: building relationships, managing expectations, and media preparation
- Producing communication formats such as press releases, briefings, multimedia, social media, and innovative public engagement (festivals, reels, comics)
- Evaluating research for newsworthiness, cutting through jargon and bias, addressing ethics, global trends, and responsible use of AI tools

Assessments:

Project work (10-20 pages)

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

Required:

- Main textbook: Besley, J.C. & Dudo, A. (2022): Strategic Science Communication
- Olson, R. (2009): Don't be Such a Scientist (on ABT technique)
- Hayden, T. & Nijhuis, M. (eds.) (2013): The Science Writer's Handbook
- Pinker, S. (2014): The Sense of Style (on good language and writing)

Recommended:

- Orwell, G. (1946): Politics and the English Language
- Dawkins, R. (1986): The Blind Watchmaker
- Sagan, C. (1995): The Demon-Haunted World
- Quammen, D. (1996): The Song of the Dodo
- Nihill, D. (2015): Do You Talk Funny?

- de Grasse Tyson, N. (2017): Astrophysics for People in a Hurry
- Badham, V. (2021): QAnon and On
- Science-themed comics from xkd.com and The Oatmeal

Elective Module: Covering Sustainability			
Module brief title:	Covering Sustainability	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Robert Frederick		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon successful completion of this module, students will be able to

- define core sustainability concepts and explain the purpose and structure of major sustainability reporting frameworks;
- assess sustainability strategies by considering corporate, societal, environmental, and governmental impacts;
- critique strategic sustainability communication plans with attention to transparency, data-driven storytelling, and risks of greenwashing;
- identify and map key stakeholders shaping sustainability narratives;
- apply investigative journalism methods to source, fact-check, and frame sustainability stories accurately, while analyzing ethical tensions between advocacy, objectivity, open data, and public trust;
- evaluate case studies to identify best practices and common failures in both strategic and journalistic sustainability communication;
- produce a strategic communication campaign or journalism series that informs, engages, and motivates sustainability action or further public engagement.

Module content:
This module explores both strategic and journalistic approaches to sustainability communication. It introduces students to the key frameworks, workflows, players, ethical dilemmas, and storytelling techniques that drive credible, actionable narratives about corporate, environmental, social, and governmental impact. This module equips students with the tools to plan and execute sustainability communications that are strategically sound and journalistically rigorous, ensuring their stories inform, engage, and drive either meaningful change (for a strategic communication campaign) or further engagement (journalism series). Topics covered include: • Foundations of Sustainability – Equity, Environmental, and Economy – and how they overlap, including carrying capacity, use of biological materials, agriculture, energy, society, or geography and culture • Sustainability Reporting Frameworks for both strategic communication and journalism • Strategic Communication for Sustainability: understandability, identity, values, promotion, influence, building support, moving to action • Journalistic Coverage of Sustainability: controversy, climate and energy generation, finance and reporting, corporate boards, policy and regulation, United Nations' agendas, challenging traditional perceptions of development, transparency, holistic and pluralistic coverage • Ethics, Trust, and the Science-Society Interface • Case studies including business models for sustainable journalism • When "Sustainability" deceives (greenwashing, greenhushing, solutions journalism, (over)specialization) and what to do about It • Designing a sustainability strategic report or editorial plan • Produce a sustainability project under strategic or journalistic constraints (final project)
Assessments:
Project work (10-20 pages)
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Required: • United Nations (1987): Our Common Future. • Total Energy (2020): From Net Zero ambition to Total strategy. • Frederick, R. (2025): Covering Sustainability. SustainLab. • Santer, B. (2025): A climate scientist reflects on 30 years fighting the 'forces of unreason.' *The Bulletin of Atomic Scientists.* • Zhong, R. (2025): The Very Hungry Microbes That Could, Just Maybe, Cool the Planet. *The New York Times*. • Gilot, M. (2025): Sorry, the Explainer is Dead. In: NiemanLab Predictions for Journalism 2026. • Chua, G. (2025): What the Future Looks Like. *Columbia Journalism Review.* • additional readings from guest speakers

- additional journalism articles and examples of strategic science communication as identified by students (as part of assignments)

Optional (mentioned in presentations):

Books:

- Portnoy, K.E. (2015): Sustainability. MIT Press.
- Lindenfeld, L. *et al.* (2025): Science Communication for Scientists. Routledge.

Articles/Videos:

- Brown *et al.* (1987): Global sustainability: Toward definition. *Environmental Management* 11, 713-719.
- Kidd, C.V. (1992): The Evolution of Sustainability. *Journal of Agriculture & Environmental Ethics* 5, 1-26.
- Fleming, J.R. *et al.*(2010): Carbon Dioxide and the Climate. *American Scientist*.
- Koonin, S. (2014): Climate Science is Not Settled. *Wall Street Journal*.
- Boslough, M. (2021): A critical review of Steven Koonin's 'Unsettled'" Mark. Yale Climate Connections.
- Santer, B. (2021): How IPCC went from 'not proven' that we cause climate change in 1990 to 'we are guilty' in 2021. The Hill.
- Blau, W. (2021): If you're not a climate reporter yet, you will be: Covid-19 coverage offers lessons for reporting on the climate crisis. NiemanLab.
- Rubin, A.J. (2022): Cloud Wars: Mideast Rivalries Rise Along a New Front. *The New York Times*.
- Tracy, B. (2022): Nevada bans "non-functional" grass amid megadrought. *CBS News*.
- Ritchie, H. (2023): Are we the last generation — or the first sustainable one? TED Talk.

Elective Module: Visual Science Communication			
Module brief title:	Visual Science Communication	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 1		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Dr. Elena Milani		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

By the end of this module, students will be able to

- critically evaluate visual content and discriminate between informative and potentially misleading or harmful imagery;
- transform complex scientific information into accessible visual formats suitable for non-specialist audiences;
- apply design fundamentals strategically, making evidence-based decisions about colour, composition, visual hierarchy, and accessibility in diverse science communication contexts;
- create purposeful visual materials for science communication campaigns, demonstrating clear rationale for every design choice;
- analyze and address ethical implications of visual choices, including representation, bias, scientific accuracy, and potential harm;
- navigate AI-generated imagery critically, understanding both opportunities and limitations for ethical science communication;
- approach visual design strategically rather than intuitively and develop professional workflows to create visual science communication materials.

Module content:

This module explores the critical role of visuals in research communication. Charts, diagrams, illustrations, and photographs strongly influence how audiences understand, trust, and act on scientific information. Students learn design fundamentals, consider ethical challenges, and develop practical skills for creating effective science communication materials. The module emphasizes critical thinking over aesthetic appeal, encouraging students to evaluate each visual choice in terms of message, audience, and possible unintended consequences. Topics covered include:

- Core Principles of Visual Communication – audience analysis, medium selection, and communication objectives, with attention to how different contexts demand different visual approaches.
- Design Fundamentals – including color, composition, hierarchy, and accessibility, with emphasis on inclusive and evidence-based design choices.
- Visual Literacy and Visual Science Literacy – interpreting and evaluating visuals across diverse audiences, recognizing how science literacy and cultural background shape understanding.
- Transforming Information into Visuals – practical skills for creating clear, accurate diagrams, charts, and process flows that aid comprehension without distortion.
- Ethical Issues – critical discussion of accuracy, manipulation, framing, bias, stereotypes, and copyright in visual communication.
- AI and Visual Communication – critical engagement with AI-generated imagery, highlighting risks of inaccuracy, bias, and copyright concerns, and the need for careful evaluation before use.

Assessments:

Oral presentation (15-30 Min) on a science communication campaign developed by the students and on three complementary visuals created for that campaign. Students are expected to explain how the visuals work together, how they support the communication goals, and the reasoning behind the design choices.

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

Optional reading - books:

- Tufte, E. R. (2001): The Visual Display of Quantitative Information (2nd ed.). Graphics Press.
- Pauwels, L. (Ed.). (2006): Visual Cultures of Science: Rethinking Representational Practices in Knowledge Building and Science Communication. Dartmouth College Press.
- Aiello, G., & Parry, K. (2019): Visual Communication: Understanding Images in Media Culture. SAGE.
- Lester, P. M. (2021): Visual Communication: Images with Messages (8th ed.). Cengage.
- Christiansen, J. (2023): Building Science Graphics: An Illustrated Guide to Communicating Science through Diagrams and Visualizations. CRC Press.

Recommended papers:

- Trumbo, J. (1999): Visual literacy and science communication. *Science Communication* 20(4), 409–425.
- Houts, P. S. *et al.* (2006): The role of pictures in improving health communication: A review of research on attention, comprehension, recall, and adherence. *Patient Education and Counseling* 61(2), 173–190.

- Smith, L. F. *et al.* (2011): Aesthetics and astronomy: Studying the public's perception and understanding of imagery from space. *Science Communication* 33(2), 201–238.
- Chapman, D. A. *et al.* (2016): Climate visuals: A mixed methods investigation of public perceptions of climate images in three countries. *Global Environmental Change* 41, 172–182.
- Rigutto, C. (2017): The landscape of online visual communication of science. *Journal of Science Communication* 16(2), C06.
- Kim, S. J. & Lee, J. H. (2024): The effectiveness of visual-based interventions on health literacy in adults: a systematic review and meta-analysis. *Frontiers in Public Health* 12, Article 3624432.

Elective Module: AI-powered Innovation Management			
Module brief title:	AI-powered Innovation Management	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication		
	Semester: 1		
Responsible for Module:	Prof. Hähnlein, Johannes		
Lecturer:	Prof. Hähnlein, Johannes		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

By participating in the "AI-powered Innovation Management" module, students acquire critical knowledge and skills in innovation management, enhanced by modern AI tools. The module specifically addresses the use of AI in various stages of the innovation process, including idea generation, opportunity exploration, prototyping, and business design.

The module adopts a blended learning format, combining online self-learning with hands-on workshops, to guide students through a practical innovation process supported by an innovation software platform. A key element of the course is the involvement of a company partner who provides a real business challenge, ensuring that the module is highly practice-oriented with a focus on developing real-world impact. The goal is for students to work in teams to develop a market-ready innovative product idea and a corresponding business concept, which will be presented in a final pitch to a panel from the partnering company.

Distinctive Features of the Module:

- Practical Application: Instead of theoretical case studies, students tackle real innovation challenges provided by a company partner. This hands-on approach is designed to encourage the practical application of AI tools and techniques in developing genuine product ideas.
- Skill Enhancement: Students will extend their technical and methodological competencies to include specialized knowledge in AI-supported innovation processes, market analysis, and the use of cutting-edge digital tools in business modeling.

- Innovation Driven: The module uses interactive methods and AI capabilities to boost the innovative potential of students, enabling them to create viable business ideas that could transition into real- world applications.
- Team Dynamics: Students will self-organize into multidisciplinary teams, assuming various roles needed to drive the innovation process, such as project manager, AI specialist, and business analyst.
- Added Value: Successful projects have the potential for further development post-course, with opportunities for:
    - Continued collaboration with the company partner,
    - Participation in additional pitches or innovation contests,
    - Eligibility for incubation programs or startup grants.

Acquired professional action competence:

- Innovation Process Management: Students engage in a complete innovation cycle, from ideation through to prototyping and pitching, utilizing AI-enhanced tools and methods.
- Strategic Use of AI: Learning to integrate AI strategically at every stage of the innovation process to enhance the quality and feasibility of product ideas.
- Business and Product Development: Skills in developing business models and prototypes that are both innovative and marketable.
- Project Management and Team Leadership: Practical experience in managing projects, leading teams, and communicating effectively within a business context.

Acquired social skills:

- Team Formation and Management: Building and managing dynamic teams to tackle complex innovation challenges.
- Collaborative and Goal-Oriented Work: Coordinating team efforts towards common project goals under real-world constraints and timelines.
- Business Communication Skills: Constant interaction with professionals from the company partner.
- Presentation and Pitching Skills: Developing and refining presentation skills through regular feedback on project pitches.

Module content:

Course Structure: The "AI-powered Innovation Management" module combines interactive workshops with comprehensive online self-learning segments to guide students through the innovation process using AI tools. The curriculum is structured into a series of workshops and online modules that alternate to maximize both hands-on learning and flexible, theory-based study.

1. Kick-off Workshop:
   Introduction to the course, fundamental concepts of innovation management, overview of supported software, and introduction to the real business challenge provided by the company partner.
2. Online Self-Learning: AI Tools and Software Training
   Deep dive into AI tools, practical training on software tools, application of AI in innovation, and prompt engineering for creative problem-solving.
3. Opportunity Exploration Workshop:

Techniques for trend and technology scouting, defining search fields, using software for foresight, and developing opportunity fields specifically tailored to the company challenge.

4. Online Self-Learning: Creativity and Ideation
   Creativity techniques, software-guided ideation campaigns, and submission of initial ideas.
5. Ideation Workshop & Intro to Prototyping
   Content: Final ideation session, idea evaluation, decision making, and hands-on prototyping assignments
6. Online Self-Learning: Prototyping Techniques
   Prototyping techniques, prototype development, and practical application of prototypes in the innovation process.
7. Project Management and Business Design Workshop:
   Fundamentals of project and portfolio management, practical aspects of managing innovation projects, and developing a business model.
8. Online Self-Learning: Pitch Preparation
   Preparing for the final pitch, refining presentation skills, and techniques for effective communication.

Assessments:
Project work
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Will be announced at the beginning of the semester

Issues in contemporary science			
Module brief title:	Issues in contemporary science	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- identify scientific topics with great potential for debates;
- find potential speakers for panel discussions;
- communicate uncertain and contradictory information;
- moderate expert discussions dealing with controversial issues professionally and impartially.

Module content:

Science is rich with examples of issues or topics where scientists disagree on how to interpret the scientific evidence. Examples are the question of how we should eat to stay healthy, whether we should use nuclear energy or whether substances like bisphenol A or glyphosate are dangerous to our health. In this module, students apply what they have learned about how to best communicate uncertainty in science and the scientific process to real-world examples.

Students will be asked to prepare a pitch of a discussion between two experts with different views on a scientific issue. They will ask these experts to participate in a panel discussion they will moderate. In class, we will prepare questions and the structure of the debate; after the event, we will analyze what went well and what could have been done better.

Assessments:
Project work
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Depends on the topics; examples include: • Lynas, M. (2018): Seeds of Science: Why We Got It So Wrong On GMOs • Oppenheimer M. *et al.* (2019): Discerning Experts: The Practices of Scientific Assessment for Environmental Policy • Wallace-Wells, D. (2019): The Uninhabitable Earth • Zuboff, S. (2019): The Age of Surveillance Capitalism • Weitze, M.D. (2025): Dialogveranstaltungen gestalten, moderieren, weiterentwickeln • Dudley, K. (2025): The Moderator's Handbook. Columbia Business School Publishing.

Audiovisual Production			
Module brief title:	Audiovisual Production	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Carl Smith; LB Uwe H. Martin		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- plan, record and edit a brief professional-level audio and video piece on a scientific topic;
- understand the importance of preparation and planning when it comes to audiovisual production;
- use non-linear audio and video editing tools;
- assess which equipment is appropriate for which project and budget;
- assess which storytelling device is best to present the material in public (i.e. web video versus gif etc.);
- find and learn new tools or techniques by locating information online (i.e. YouTube, reddit, etc.).

Module content:

In the first part, students learn about the different formats and styles of radio and podcast science journalism, the basics of audio production and sound recording, and how to produce a story using existing assets. They will develop hands-on skills, deepen their understanding of the audio landscape, understand how to tailor their ideas for a podcast or radio audience, and then create their own story or pilot to pitch to existing programs or media companies. Important skills include how to set up and do an interview for audio production and understanding why good sound is so important for effective communication.

In the second part, students will build on their audio knowledge to pitch, shoot and edit a short character-driven video under the supervision of a professional science video producer.

Guest speakers will introduce students to innovative tools or give real-world examples of audio or video projects.

Assessments:

Project work

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

- Vonnegut, K. (1940s): The Shape of Stories
- Murch, W. (1992): In the blink of an eye
- Lamott, A. (1994): Bird by Bird
- Kern, J. (2008): Sound Reporting: The NPR Guide to Audio Journalism and Production
- Curran Bernard, S. (2010): Documentary Storytelling: Creative Nonfiction on Screen. Focal Press.
- Moore, M. (2014): 13 Rules for Making Documentary Films
- Gold, A. (2017): The Video Editing Handbook
- Lancaster, K. (2018): DSLR Cinema: A beginner's guide to filmmaking on a budget
- Bricca, J. (2018): Documentary editing: Principles and practice. Routledge
- Frierson, M. (2018): Film and Video Editing Theory: How Editing Creates Meaning
- Bosworth, M. & Lakshmi, S. (2018): Crafting Stories for Virtual Reality
- Lancaster, K. (2019): Basic Cinematography - A Creative Guide to Visual Storytelling. Routledge

Data Storytelling			
Module brief title:	Data Storytelling	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	Visual Science Communication (1st semester elective module)		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- find relevant data sets that tell a story;
- clean and analyze data sets;
- turn data sets into a story using text, visualization, sonification or other means;
- understand current trends in data storytelling;
- find the appropriate tools for their project and budget.

Module content:

Building on what students have learned in the first semester about visual science communication, the scientific process and statistics, they will spend this module to draft the outline of a storytelling project from real-world data. To this end, they will learn how to find interesting data sets that can tell a story; how to clean the relevant data; how to analyze them and (if applicable) visualize the data. In a way, they learn how to "interview" the data just like they would interview an expert. Along the way, students will get to know the many (often free) tools they can use for these steps, most of which do not even require coding skills. Whenever coding comes into play, students will be encouraged to employ AI tools for help (vibe coding). An introduction to special creative techniques like turning data into sound rounds up the module. Guest speakers will give insights into their workflows to produce powerful data storytelling projects.

Assessments:
Project work
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
• Murray-Schafer, R. (1977): The Soundscape • Tufte, E. (4th ed. 1990): Envisioning Information • Tufte, E. (2001): The Visual Display of Quantitative Information • Lima, M. (2011): Visual Complexity: Mapping Patterns of Information • Hermann, T. *et al.* (2011): The Sonification Handbook • Cairo, A. (2012): The Functional Art • Lankow, J. & Ritchie, J. (2012): Infographics: The Power of Visual Storytelling • McCandless, D. (2012): Information is Beautiful • McCandless, D. (2014): Knowledge is Beautiful • Cox, T. (2014): The Sound Book: The Science of the Sonic Wonders of the World • Cairo, A. (2016): The Truthful Art • Lupi, G. & Posavec, S. (2016): Dear Data. • Dykes, B. (2021): Effective Data Storytelling - How to Drive Change with Data, Narrative and Visuals • Bounegru, L. and Gray, J. (eds.)(2021): The Data Journalism Handbook: Towards a Critical Data Practice • Nussbaumer-Knaflic, C. (2022): Storytelling with data • Reilley, M. & Sunne, S. (2023): Data + Journalism - A Story-Driven Approach to Learning Data Reporting • Yau, N. (2024): Visualize This: The Flowing Data Guide to Design, Visualization, and Statistics

Exhibitions, Games, SciArt			
Module brief title:	Exhibitions, Games, SciArt	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Uwe H. Martin		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- develop the concept and mock-up for an Exhibition, Game, or SciArt project;
- understand key strengths, weaknesses, requirements, and challenges of print, TV, radio, web, device-based, multimedia, VR, AR, and social media formats;
- know how streets act as social networks and how exhibitions offer deeper engagement and discussion;
- understand events as an effective way to reach audiences and instigate change;
- know the potential and limitations of different media, spaces and live events in communicating science trends;
- understand current trends and quality standards in the exhibition design and SciArt space.

Module content:

In this hands-on workshop, students develop the concept and mock-up for an Exhibition, Game, or SciArt project. It alternates between inputs, interviews, discussions, idea mapping, design sprints, and coaching sessions and is hosted to build community. Topics covered include:

- Media formats: What are key strengths, weaknesses, requirements, and challenges of print, TV, radio, web, device-based, multimedia, and social media formats?

- Spaces: How can streets act as social networks and how can exhibitions offer deeper engagement and discussion?
- Designing spaces of encounter
- Information density vs embodied experiences
- How can live events effectively reach audiences and perhaps even instigate change?
- Going slow: From Slow Violence to Slow Journalism and Slow Hope
- Why does journalism need to overcome its focus on what is new to tackle what matters?
- What happens when journalists take responsibility for their knowledge and networks?
- Audience: Who do you want to / must reach?
- Going solo, team, or network?
- Workflow and specific challenges of designing and producing science-related games and SciArt projects

Assessments:

Project work

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

- Cramerotti, A. (2009): Aesthetic Journalism: How to Inform Without Informing
- Nixon, R. (2013): Slow Violence and the Environmentalism of the Poor
- Hughes, P. (2015): Exhibition design: An introduction
- Demos, T.J. (2016): Decolonizing Nature: Contemporary Art and the Politics of Ecology
- Bucher, J. (2017): Storytelling for virtual reality: methods and principles for crafting immersive narratives
- Piehl, J. (2020): Graphic Design in Museum Exhibitions: Display, Identity and Narrative
- Guazzaroni, G. & Pillai, A.S. (2020): Virtual and Augmented Reality in Education, Art and Museums

Public Engagement			
Module brief title:	Public Engagement	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	LB Patrick Klügel		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- critically assess influential definitions and concepts of Public Engagement;
- sketch the differences and relations between science communication, Public Engagement and transfer;
- understand the historical, societal and normative context of Public Engagement;
- identify key values, risks and critiques of Public Engagement practices;
- apply a theoretically informed toolkit of Public Engagement methods to conceptualize their own Public Engagement activity.

Module content:

This module introduces students to „Public Engagement with Science“ as a theoretical-based concept, a methodological approach, and a professional field of practice. It combines conceptual and normative perspectives with practical experience from a professional in the field. It highlights insights into contemporary applied Public Engagement formats at the intersection of research and society. In practical group work, participants develop concrete challenges from the field of Public Engagement and iteratively work on possible solutions related to the seminar topics and, if possible, supported by inputs from invited guest speakers. In a final workshop, participants test and reflect on their challenge-based solutions in a real-world or field-based context.

This wrap-up session synthesizes theoretical, methodological and practical insights and supports the transfer of learning outcomes into participants' own academic or professional practice. Topics covered include:

- Concepts and Definitions of Public Engagement
- Public Engagement in Context: Society, Politics and Barriers
- Values, Risks and Critique – What Do We Need to Think About?
- Unpacking Our Toolkit: Methodologies and Practices of Modern Public Engagement
- The Professional Field: Actors, Jobs, Lighthouse Projects

Assessments:

Project work

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

Required:

- National Co-ordinating Center for Public Engagement (2010): The Engaged University. A Manifesto for Public Engagement.
- Kramer, O. & Gottschling, M. (Ed.) (2021): Recontextualized Knowledge: Rhetoric – Situation – Science Communication. Berlin/Boston: De Gruyter.
- Besley, J. C., Dudo, A. (2022): Strategic Science Communication. A Guide to Setting the Right Objectives for More Effective Public Engagement, John Hopkins University Press: Baltimore.
- Cyber Valley/Berlin School of Public Engagement and Open Science (2023): The principles of public engagement. How we shape the dialogue between research and the public.
- Meisch, S. P. (2024): Extended peer communities: Creating good and fair knowledges. *Futures* 163, article 103461.
- Potochnik, A. (2024): Science and the Public.
- Cambridge University Press (2025-2026): Elements in Public Engagement with Science (series)
- Klügel, P. & Hassmann, H. (2026): Interaktion, Deliberation, Empowerment: Was Public Engagement im Diskurs um Künstliche Intelligenz leisten kann. In: Burkhardt, A. *et al.* (Ed.): Artificial Turn? Interdisziplinäre Perspektiven auf Künstliche Intelligenz. Freiburg, wbg/Herder.

Optional:

- Brossard, D., & Lewenstein, B. (2009): A critical appraisal of models of public understanding of science: Using practice to inform theory. In Kahlor, L., & Stout, P. (Eds.). Communicating Science: New Agendas in Communication (1st ed.). Routledge.
- Nature Publishing Group. (2018): Co-Production of research [Special issue]. Nature 562.
- Metcalfe, J. (2019): Comparing science communication theory with practice: An assessment and critique using Australian data. *Public Understanding of Science* 28(4), 382-400.
- Scheufele, D. A., Krause, N. M., Freiling, I., & Brossard, D. (2021): What we know about effective public engagement on CRISPR and beyond. *Proceedings of the National Academy of Sciences* 118(22), e2004835117.

- Klügel, P. (2024): Eine Infrastruktur für Transdisziplinarität. Die Public Engagement Strategie des KI-Forschungsverbunds Cyber Valley (ein Praxisbericht). In: Klingler, Corinna; Pichl, Anja; Ranisch, Robert (Hg.): Ethik der Partizipation: Einblicke in gesundheitsbezogene Forschung, Politik und Technologieentwicklung. transcript. S. 437 – 452.
- Klügel, P. (2024): Eine gemeinsame Lernreise – Der Public-Engagement-Ansatz aus der Wissenschaftskommunikation. In: Dürig, U.M., Haug, H. (eds): Wirkungsvolle Nachhaltigkeitskommunikation. Springer Gabler, Wiesbaden.
- Shennan, V., & Stewart, M. (2025): Fostering transdisciplinary & participatory research and public engagement with research: Exploratory study on the developmental potential in Germany.

Evidence-based SciComm			
Module brief title:	Evidence-based SciComm	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 2		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:		48 h
	E-Learning:		0 h
	Self study:		102 h
	Total:		150 h
Module duration:	1 Semester		
Semester of module			
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Upon completing this module, students will be able to

- differentiate between the most relevant methods in science communication research, such as qualitative, quantitative and computational approaches;
- understand the strengths and limitations of different methods in science communication research;
- understand and apply results and insights from science communication research to conduct, evaluate or improve communication campaigns and projects;
- appreciate the value of basing strategic decisions in communication upon empirical research, thus making decisions in science communication more ‘evidence- based’.

Module content:

Many professional science communicators are not aware of what studies of science communication have found out about how communicators should do their work. This ‘science of science communication’ is what this module is meant to encourage and enable. This module enables students to learn the tools they need and to identify potential academic research topics. In a final step, they will formulate an exposé of a research study proposal. Topics covered include:

- What is the "science of science communication?" Why should we care?

- Current trends and challenges of the field
- Journal club: Each student presents a paper that has made a major contribution to the field of science communication
- Guest speakers will give additional insights into certain aspects of research cases studies
- How to do literature research and identify the research gap
- Introduction to major study designs and approaches
- How to formulate the hypothesis and research questions
- How to develop a research proposal (exposé)

Assessments:

Project work

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.

Reading / literature:

Required:

- Laurie, C. & Jensen, E.A. (2016): Doing real research (book)
  https://study.sagepub.com/jensenandlaurie (online resources)

Recommended:

- de Vaus, D. (2001): Research design in social research
- de Vaus, D. (2013): Surveys in social research
- The Sage Handbook of Qualitative Data Analysis (2013)
- Khan, S. & Fisher, D.R. (2013): The practice of research: How social scientists answer their questions
- Hearns-Branaman, J.O. (2016): Journalism and the Philosophy of Truth: Beyond Objectivity and Balance (Routledge Research in Journalism, Band 14)
- Moon, K. (2014): A guide to understanding social science research for natural scientists
- National Academies of Sciences, Engineering, and Medicine (2017): *Communicating Science Effectively: A Research Agenda*. Washington, DC: The National Academies Press
- Barkho, L. (2017): Towards a Praxis-based Media and Journalism Research
- Kumar, R. (2019): Research Methodology 5th ed.
- Berger, A.A. (2020): Media and Communication Research Methods. SAGE.
- Stokes, J. (2021): How to do Media and Cultural Studies
- Rudas, T. & Péli, G. (2021): Pathways Between Social Science and Computational Social Science: Theories, Methods, and Interpretations
- Paulus, T.M. & Lester, J.N. (2022): Doing Qualitative Research in a digital World. SAGE.
- Druckman, J.N. (2025): An agenda for science communication research and practice

Applied Research			
Module brief title:	Applied Research	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 3		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:	25 h	
	E-Learning:	0 h	
	Self study:	125 h	
	Total:	150 h	
Module duration:	1 Semester		
Semester of module	Only winter term		
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

Students learn to

- plan and work on a major project;
- present what they have learned to others;
- respond to feedback and give feedback and inspiration to others.

Module content:

This module supports students in their applied research project, which can either be a communicaton project (potentially in collaboration with an external partner) or an academic project in the science of science communication. Students present their approaches and challenges and contribute and give feedback on other student projects.

Assessments:

Presentation, 15 min.

Awarding of credits:

Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Will depend on the project.

Colloquium			
Module brief title:	Colloquium	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 3		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	5 ECTS / 4 SWS		
Work load:	Contact hours:	48 h	
	E-Learning:	0 h	
	Self study:	102 h	
	Total:	150 h	
Module duration:	1 Semester		
Semester of module	Only winter term		
Instruction types:	Seminar & exercises		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	None		

Teaching goals:

At the end of this module, students can

- compose an academic text citing literature to support their points;
- confidently present and defend knowledge they have acquired independently in a public setting in front of an expert audience;
- present the status of their own academic work and respond to feedback in a self-critical manner;
- give feedback and participate in discussions in academic settings;
- work independently and over the long term toward a goal, incorporating and weighing external feedback and suggestions for improvement in order to achieve the best possible result.

Module content:

The module guides students on their way to completing their Master's thesis. Fundamental research methods are discussed and their areas of application are demonstrated. Furthermore, students receive feedback on their progress: At three specified points in time—at the beginning (exposé), in the middle, and at the end of the semester—students present the progress of their own thesis and, under the guidance of professors, participate critically and actively in the discussion of other theses presented.

Assessments:
Participation and presentation (30 min.)
Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Will depend on the project.

Master‘s Thesis			
Module brief title:	Master‘s Thesis	Reg-Nr.:	HSAN-20252
Curriculum:	Program: Science Communication (Master)		
	Semester: 3		
Responsible for Module:	Prof. Dr. Andreas von Bubnoff		
Lecturer:	Prof. Dr. Andreas von Bubnoff		
Language:	English		
Credit points / SWS:	20 ECTS / 20 SWS		
Work load:	Contact hours:	0 h	
	E-Learning:	0 h	
	Self study:	600 h	
	Total:	600 h	
Module duration:	1 Semester		
Semester of module	Winter and summer term		
Instruction types:	Master‘s thesis		
Assessment:	None		
Recommended prerequisites:	None		
Prerequisites according to examination regulation:	The assignment of a master’s thesis the topic that the student has earned at leastrequires 50 ECTS credits in te Master’s program.		

Teaching goals:

The Master's thesis is the culmination of all of the teaching in the Master's program. Here, students apply what they have learned to produce a major communication project on a scientific topic to a specified audience or they conduct an academic research study in the area of science communication research. At the end of the thesis, they know how to find the idea for a communication or academic project, how to overcome challenges to execute the project and how to reflect on their approach, challenges and results in the form of a written thesis.

Module content:

Students produce a major communication project on a scientific topic for a specified audience or they conduct an academic research study in the area of science communication research and reflect on the project in the form of a written thesis.

Assessments:

Master's thesis (60-80 pages)

Awarding of credits:
Prerequisite for the granting of credit points is the passing of the respective module examination in accordance with the SPO resp. study plan.
Reading / literature:
Will depend on the project.