Serviço Público Federal
Universidade Federal de Santa Catarina
Centro Tecnológico
Programa de Pós-Graduação em Engenharia, Gestão e Mídia do Conhecimento

PLANO DE ENSINO

I. NOME DA DISCIPLINA (Course Name): EGC 410047 - Generative AI and Data-Driven Innovation in Media and Creative Industries

II. PRÉ-REQUISITOS (PreRequisites): Não (None)

III. CARGA HORÁRIA (Workload): 15 h/a

Carga horária total: 15 h/a	**Carga horária semanal:** 7,5h/a	**Carga horária teórica:** 15h/a	**Carga horária prática:** (Extra)
Carga horária presencial: 12h/a	**Carga horária assíncrona:** 03h/a	**Data início do trimestre:** 25/Nov/2025	**Data fim do trimestre:** 08/Dez/2025

IV. PROFESSORES/AS:

Prof. Dr. Júlio Teixeira	PPGEGC
Prof. Dr. Stephan Böhm	Convidado Externo (External Guest) - RheinMain University (Alemanha - Germany) **To be Confirmed**

V. TUTOR (se houver/if applicable): Melise Peruchini (PhD Candidate | meliseperuchini@gmail.com)

VI. TRIMESTRE (Term): 2025/3

VII. ANO LETIVO (Academic Year): 2025

VIII. EMENTA (Course Description):

Generative Artificial Intelligence; data-driven approaches to innovation; AI applications in media and creative industries; human-centered AI design; ethical

challenges in AI use; rapid prototyping with GenAI; evolution of creative processes and workflows.

IX. OBJETIVO GERAL DA DISCIPLINA (General Objective of the Course):

To explore generative AI and data-driven methods to drive innovation in media and creative industries.

X. OBJETIVOS ESPECÍFICOS (Specific Objectives):

- Explore the impact of generative AI on creative workflows (inside and outside the AI blackbox);
- Understand the opportunities and challenges involved in mediating AI-mediated creativity within media and design practices.
- Prototype with AI tools across different design stages;
- Critically assess the ethical, cultural, and design implications of GenAI;

XI. CONTEÚDO PROGRAMÁTICO (Program Content):

[Part 1]:

- GenAI: definitions, evolution, and potential opportunities and risks.
- AI in Media and Creative Industries: applications, disruptions, use cases.

[Part 2]:

- Human-AI Collaboration: prompt engineering, co-creation models, and ideation flows.
- Data-Driven Innovation: personalization systems, algorithmic mediation, and audience profiling.

[Part 3]

- AI-Mediated Creativity: opportunities and challenges in creative workflows.
- Prototyping with GenAI: tools, case studies, and experimentation.

[Part 4]

- The Algorithmic Turn: bias, cultural flattening, etc.
- AI Ethics: responsible design, data curation, creative autonomy.

[Extra]

- Hackathon Pitch and Short Paper

XII. CALENDÁRIO DA DISCIPLINA (Course Schedule):

AULA (Classes)	ATIVIDADES E/OU ATIVIDADES (Activities)
1	**25/Nov (Tue) - On-Campus Class [8:15am - 12:00pm]** Inaugural Class - The Power of Generative AI in Media and Creative Industries.
2	**26/Nov (Wed) - On-Campus Class. [8:15am - 12:00pm]** Human-AI Collaboration and Prompt Design; and Data-Driven Innovation
3	**02/Dec (Tue) - Remote Class [9:30 am - 12:30pm]** **Part 1:** *The Algorithmic Turn in Media* with **Professor Stephan Böhm** (RheinMain University – Germany - **To be Confirmed**) **Part 2:** Prototyping and Ideation with GenAI with **Guest Speaker: Antonio Borja** (Director of School of Industrial Design, Academy of Art University – USA - **To be Confirmed**)
4	**03/Dec (Wed) - On-Campus Class [8:15am - 12:00am]** Ethics, Bias, and Contextual AI in Creative Work. **Part 1:** *Ethical Challenges and Cybersecurity in the Age of Artificial Intelligence* with **Guest Speaker: Prof. Dr. Alexander Lawall** (International University of Applied Science – Germany - **To be Confirmed**) **Part 2:** *Participatory AI and Strategic Co-Creation in Media Futures* with **Guest Speaker: Prof. Dr. Petra Ahrweiler by video call** (Professor at Johannes Gutenberg University Mainz – Germany – **To be Confirmed**).
[Extra]	**08/Dec (Mon) - On-Campus Class of Remote Class (TBD) [9:00 am - 13:00pm]** **Mini-Hackathon with Team Pitches; and Short Paper Submission**

XIII. METODOLOGIA DE ENSINO (Teaching Methodology):

The course adopts a blended and active learning approach, combining theoretical lectures, critical discussions, case analysis, and hands-on experimentation. Students will engage with GenAI tools, participate in

collaborative prototyping exercises (by a mini-hackathon), and reflect on ethical and conceptual challenges through structured seminars and short papers. Guest lectures will provide international perspectives and practical insights.

XIV. METODOLOGIA DE AVALIAÇÃO (Assessment Methodology):

The performance will be assessed based on 02 components [**100% final grade]**:

Mini-Hackathon [65%]: A collaborative and time-constrained challenge where students work in teams to prototype innovative solutions using GenAI tools. Over a 2-hour session, each team responds to a proposed design or media challenge, delivering rapid concepts in the form of visuals, products, or campaigns.

Short Paper [35%]: An individual critical essay (~2 pages) on a scientific or conceptual topic related to the course. Topics may be proposed by the student or professor but require prior approval. The paper should demonstrate analytical depth, engage with relevant literature, and present a clear position or critique (e.g., algorithmic bias, AI co-creation, ethical personalization, data-driven aesthetics, etc.).

XV. BIBLIOGRAFIA (Bibliography):

Edwards, K. M., Man, B., & Ahmed, F. (2024). Sketch2Prototype: rapid conceptual design exploration and prototyping with generative AI. **Proceedings of the Design Society**, 4, 1989–1998. doi:10.1017/pds.2024.201

KHAN, Abdullah; SHOKRIAZAD, Atefeh; CHENG, Jinghui. **Beyond automation: how UI/UX designers perceive AI as a creative partner in the divergent thinking stages**. In: CHI Conference on Human Factors in Computing Systems – CHI '25. New York: ACM, 2025. DOI: https://doi.org/10.1145/3706598.3713500. Disponível em: https://arxiv.org/pdf/2501.18778 (open acess, preprint version). Acesso em: 15 jul. 2025.

TEIXEIRA, Júlio Monteiro; BRAGLIA, Israel de Alcântara. **Design 5.0: o lugar dos criativos na indústria digital.** Rio de Janeiro: Alta Books, 2025.

XVI. BIBLIOGRAFIA COMPLEMENTAR (Complementary Bibliography):

GMEINER, Frederic; YANG, Humphrey; YAO, Lining; HOLSTEIN, Kenneth; MARTELARO, Nikolas. **Exploring challenges and opportunities to support designers in learning to co-create with AI-based manufacturing design tools.** In: CHI Conference CHI, 2023. Disponível em: https://arxiv.org/abs/2303.00192 (open acess, preprint version). Acesso em: 15 jul. 2025.

MODENA, Gustavo; PERUCHINI, Melise; TEIXEIRA, Julio Monteiro. **Exploring the Utilization of Generative Artificial Intelligence Tools with Design Students**. In: DIGITAL 2024 – Advances on Societal Digital Transformation. Porto, Portugal: IARIA, 2024. Disponível em: https://www.thinkmind.org/library/DIGITAL/DIGITAL_2024/digital_2024_1_10_10011.html Acesso em: 15 jul. 2025.

PERUCHINI, Melise; DA SILVA, Gustavo Modena; TEIXEIRA, Julio Monteiro. Between artificial intelligence and customer experience: a literature review on the intersection. **Discover Artificial Intelligence**, [S.l.], v. 4, n. 4, 2024. Disponível em: https://doi.org/10.1007/s44163-024-00105-8. Acesso em: 15 jul. 2025.

PERUCHINI, Melise; TEIXEIRA, Julio Monteiro. ***Analyzing Large Language Models Chatbots: An experimental approach using a probability test*. Jul 2024.** Disponível em: https://arxiv.org/abs/2407.12862. (open acess, preprint version). Acesso em: 15 jul. 2025.

Nome e assinatura digital do professor