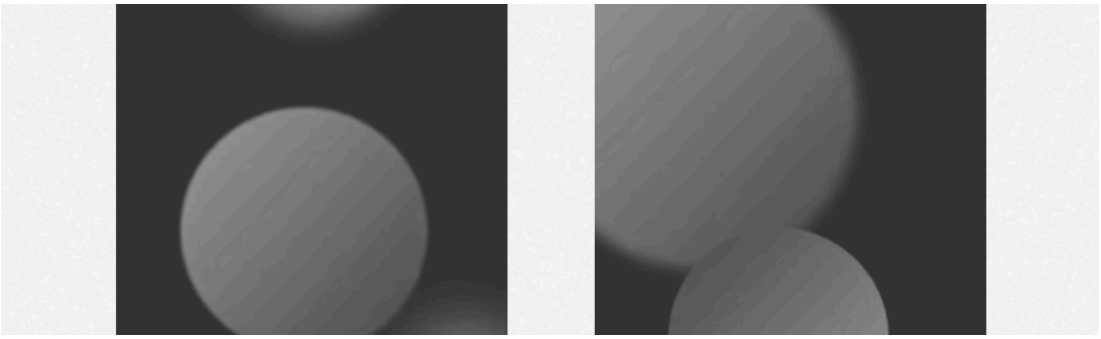


COMPUTER GRAPHICS
INFORMATICA PER LA GRAFICA

Master's Degree in Painting · 8 ECTS Credits / 8 CFA

Course Description

The course explores the expansion of painting through its interaction with digital technologies, three-dimensional modelling and development processes. The image is approached as a generative structure capable of traversing different media and material configurations: from mark to geometry, from surface to relief, and from digital processing to physical object. Technology is examined as both a field of aesthetic experimentation and an instrument of artistic research, enabling critical inquiry into the relationships between gesture, process, form and materiality.

Course Content

1. **Expanded painting and the hybridisation of visual languages.** Gesture, trace, texture and surface; relationships between painting, photography, digital imagery and contemporary artistic practices.
2. **Digital image languages and processing.** Image acquisition, resolution, colour, file formats, raster and vector graphics; layers, masks, thresholds and image transformation.
3. **From mark to structure.** Vectorisation, two-dimensional geometry, three-dimensional modelling and relief mapping; the translation of images into forms and surfaces.
4. **Materiality and digital fabrication.** Prototyping, laser engraving, CNC milling, computer-controlled pantography and 3D printing; relationships between design, digital files, materials and manufacturing processes.
5. **Artistic research and project development.** The development of an individual or collaborative project integrating visual research, digital experimentation and material exploration, with documentation of its stages and methodological decisions.

Learning Outcomes

Students will acquire the skills required to process images and translate them into different formal and material configurations; critically assess the possibilities and limitations of digital technologies and fabrication processes; and develop an independent project-based practice integrating technical awareness, aesthetic coherence and critical judgement.

Teaching Methods and Assessment

Lectures, the analysis of artworks and case studies, technical demonstrations, practical exercises and project critiques. Assessment will consider the quality of research, conceptual and formal coherence, command of processes, documentation and the ability to articulate critical arguments.

Final Assignment and Assessment Criteria

The final assessment will consist of an individual or group project accompanied by a concise report documenting its objectives, sources, tools and principal findings.

The final grade will be awarded on a 30-point scale, according to the following criteria:

- **Research and source selection: up to 6/30.** Relevance of the research, quality of sources, and coherence and organisation of the visual corpus.
- **Technical and methodological competence: up to 6/30.** Appropriate use of digital tools, understanding of the procedures employed, and alignment between methods and objectives.
- **Critical analysis and interpretation: up to 6/30.** Ability to interpret findings, formulate relevant observations, and recognise the potential and limitations of the tools used.
- **Design quality and visual communication: up to 8/30.** Originality, formal coherence, communicative effectiveness, and quality of the visual outcome.
- **Documentation and independent working practices: up to 4/30.** Clarity of process documentation, ability to organise the work, and awareness of the decisions made.

The final grade will reflect an overall assessment of the submitted work, the process through which it was developed, and the student's ability to substantiate their technical and design decisions, in accordance with the course's learning outcomes.

Artistic References

Gerhard Richter, for the relationships between painting and photography; Julie Mehretu, for the layering of marks, cartographies and visual structures; Casey Reas, for the relationship between code and generative form; and Michael Hansmeyer, for the transformation of algorithmic processes into three-dimensional structures. These practices serve as subjects for critical analysis rather than models for imitation.

Selected Bibliography

The following publications and research outputs are freely available online, either in full text or through deposited academic versions.

- **Tarp, Lisbet.** "The Expanded Painting." *International Journal for Digital Art History* 6 (2021): 86–106. https://doi.org/10.11588/dahj.2021.6.84189. Full text.
- **Manovich, Lev.** *The Language of New Media*. Cambridge, MA: MIT Press, 2001. Full-text PDF hosted on the author's website.
- **Rioseco, Macarena, and Emma E. Rose.** "Painting Matters: New Materialism and New Knowledge." *Journal of Visual Art Practice* 24, no. 3 (2025): 255–281. https://doi.org/10.1080/14702029.2024.2376788. Open-access article.
- **Titmarsh, Mark.** *Expanded Painting: Ontological Aesthetics and the Essence of Colour*. London: Bloomsbury, 2017. Academic version deposited in the University of Technology Sydney's open-access repository.
- **Shi, Dian.** "From Graphic Translation to Spatial Generation: Digital Fabrication, Glass Materiality, and Viewer Experience in Contemporary Glass Art." *Arts* 15, no. 9 (2026): 201. https://doi.org/10.3390/arts15090201. Open-access article.

Further reading on digital and immersive painting: Veronika Szkudlarek, *Virtual Paint Jam*, a research project available through the OCAD University institutional repository. Free PDF.

Prof. Alfonso Fraia