EUROPEAN UNIVERSITY OF TECHNOLOGY

STUDENT MODULAR PROGRAMME

AesThiCo

Project Result 4

Co-funded by the European Union

Table of Contents

Co-funded by the European Union

Co-funded by the European Union

I. INTRODUCTION

Keywords: *Process, relationality, ethics, aesthetics, action, sensory, experience, knowledge, care, others, self, planet*

An "Aesthetics of Care with Ecology in Technological Education" (AoC, heretofore) has been defined by the PR1 team of the ECT Lab + 'AesThiCo' project as " a process" whose aim "is ethically responsible action". This process, the definition continues, "is informed/activated by sensory experience, and shaped by knowledge and aesthetic consciousness. This entails caring for ourselves, others and the planet".

This process of caring and the definition as a whole are steeped in feminist discourse and its critique of patriarchal society and traditional, virtue-based conceptions of ethics. A feminist ethic of care points to how care needs to become a central value to contemporary society concerns (Gilligan, 1982, 2011; Noddings,1984), and sees it as 'everything we do to maintain, contain, and repair our "world" so that we can live in it as well as possible' (Fisher & Tronto, 1990, 40). In this wide-ranging idea of care, seeds of references to questions of sustainability and technology that are also addressed in the AoC definition can be seen.

As to sustainability, its concerns are implicitly understood in the AoC definition as a matter of relationality. Seen through this prism, care can be said to include 'generalised relational and affective elements' (Milligan & Wiles, 2010) that go beyond caring *about* or *for* specific objects or beings. Hence, a concern with the environment places the AoC definition in close proximity to such approaches to sustainability as the so-called 'Circles of Social Life' (James, 2014). This is a general framework that contemplates four basic domains of social life:

Co-funded by the European Union

ecology, economics, politics, and culture. All four are seen as part of an integrated social whole that concerns the human condition.

It is in this sense that technology is conceived of in the AoC definition. No longer seen (from an anthropological perspective) as a simple tool, technology is understood as a process of becoming human, a process of mediation in the world that has ethical consequences. Technology is likewise envisaged as a form of praxis or practical wisdom (*phronesis*) that should be approached critically, drawing on the insights of such thinkers as Aristotle, Heidegger or Stiegler.

The latter's idea of a 'therapeutics of care' (2010, 2018) is useful for characterising the role of education in the AoC definition. Inherent in it is an approach to pedagogical issues that critiques contemporary terms of production and the physical impact of consumption, as well as aiming at a decoupling of curriculum design from the short-termism of the labour market.

This and all the other aspects covered by the AoC definition are understood as having an aesthetic dimension, as critical processes of care necessarily entail knowledge and, most importantly, experience. This approach to the aesthetic follows recent developments in the field (Saito, 2022; Thompson, 2023) but also looks back to Baumgarten's original use of the term in the context of a science of sensory experience. It is in keeping with feminist perspectives that promote a pluralistic conception of the discipline. Ultimately, it points to an aesthetic that can be considered as a kind of 'beholding', invoking affective relations that entail new ways of thinking about technology and the environment beyond economic extraction. (Frasier 2016, 2021; Lynch 2022).

Co-funded by the European Union

II. AESTHICO STUDENT MODULE STRUCTURE

One of the key aspects of this module is its adaptability across disciplines. Each university can **tailor the module to fit its specific domain**, whether in **art, architecture, media, economics, ecology, science, IT** or any other field. The core concepts—care, aesthetics, sustainability, and interdependence—can be explored through different lenses:

Art & Design: How aesthetics of care influence creative practices and public engagement.

Architecture & Urban Planning: The role of care in designing sustainable, human-centred environments.

Science & Ecology: How ecological principles and sustainability relate to aesthetics and ethical responsibility.

Economics & Business: The impact of circular economy models and sustainable innovation on financial systems.

Media & IT: Ethical considerations in technology, AI, and digital storytelling through **Aesthetics of care.**

Physics & Material Science: How technological advancements can integrate ecological and aesthetic considerations in innovation.

1. Introduction : Technē, Ecology, Aesthetics – Lecture & Workshop

1.1. Glossary Tool & Workshop (Day 1)

Description:

This session serves as the foundation for understanding key concepts that will shape discussions throughout the course. The students work collaboratively to build a glossary and develop a shared language around **Technē, Ecology, Aesthetics, and Care.** The glossary-

Co-funded by the European Union

building exercise will be followed by a **workshop session**, where students will visually map relationships between these concepts through creative activities such as **Tree of Values, Conceptual Ecosystem Building, and Collaborative Collage Making**.

By the end of this session, students will have established a **collaborative glossary**, a **visual representation of key relationships**, and a **stronger understanding of the aesthetics of care** as a multidisciplinary concept. This foundational work will support further exploration throughout the course, allowing each student to engage with the themes in ways that are relevant to their field of study.

Objectives:

- Introduce foundational concepts and collaborative understanding.
- **Encourage personal engagement** with course themes by linking abstract terms to lived experiences.
- **Foster collective knowledge-building**, ensuring a shared conceptual framework for future discussions.
- **Explore interconnections** between ethics, sustainability, and aesthetics through visual and interactive activities.
- **Provide flexibility** so that universities and students can adapt the module's content to their specific disciplinary focus.

Activities:

Day 1: Workshop: Build a Glossary Tool (120 min)

Glossary Tool: (40 min.)

- Students build a glossary divided into "Word," "Definition," and "Personal Example" columns.
    - A glossary structure is provided
    - Each student selects 1-2 terms from a list provided such as Technē, ecology, Aesthetics, sustainability, circular economy, interdependency, ethics, care, biophilia, Anthropocene, and Aesthetics of care.
    - Students individually brainstorm and write down their initial thoughts about these terms, referencing prior knowledge or personal encounters.

Co-funded by the European Union

- Students are divided into small groups.
- Each group is tasked with filling in the glossary for their assigned terms, and collectively agreeing on them.
- Groups present their glossary entries to the class, allowing for collective discussion and refinement.
- A single class glossary is compiled with all the group contributions.

Reflection: (20 min.)

- The students discuss the relationship between Technē, technology, aesthetics and ecology.

Workshop: (60 min.)

- Workshop ideas (they can be tailored for the students and can reflect their interests):
  - *Tree of Values* - an activity where students visualise individual, societal, and planetary scales of care, aesthetics, and ecological values. (borrowed from EtiCo)
  - *Conceptual Ecosystem Building* - Visualize relationships between key concepts systemically.
    - Students collaboratively build a "conceptual ecosystem" using Post-its or digital tools like Miro.
    - Each idea is represented as a "species" in the ecosystem, and connections (e.g., symbiosis, conflict) between them are mapped.
    - Discuss the interdependencies and implications of these connections.
  - Collaborative Collage Making - Develop a visual representation of the module's key concepts (physical or using digital tools).
    - Students use images, texts, and symbols from magazines or online sources to create a collage representing the intersection of Technē, Ecology, and Aesthetics.
    - Collages are presented and discussed to identify shared themes and insights.

Materials Needed:

- Tools for group work: Markers, post-its, and paper for diagrams/sketches.

Co-funded by the European Union

- Tools for collages: Scissors, cutters, Xacto knife, glue sticks and spray adhesive, magazines.
- Presentation tools: Projector or whiteboard for group presentations.
- Tools provided: The glossary of terms can be found on the ECT Lab+ website.

1.2. Lectures on Technology, Ecology, Aesthetics, and Circular Economy (Day 2-3)

As we move from foundational definitions to deeper theoretical exploration, these lectures will provide **essential historical, cultural, and ethical perspectives** on Technē, Ecology, Aesthetics, and the Circular Economy. This session will build a strong epistemic framework for understanding how these domains intersect, evolve, and shape the way we engage with the world.

By the end of these sessions, students will have a **comprehensive historical and ethical perspective** on aesthetics and ecology, helping them **connect theory to practice** as they move forward in the course.

Objectives:

Build a theoretical foundation for understanding these domains and their intersection.

Lecture topics:

Day 2: Historical and Cultural Perspectives (120 min)

- Historical and cultural perspectives on Technē, aesthetics and ecology. Understand how different societies have integrated care and sustainability into their artistic and technological practices.
- **Trace the evolution from applied aesthetics to care-focused aesthetics**, exploring how ethics and sustainability shape contemporary creative and technological fields.
- Examples such as Japanese Wasi-Sabi aesthetics, the arts and crafts movement, biophilic architecture, etc.

Co-funded by the European Union

Day 3: The transition from applied aesthetics to care-focused aesthetics (120 min)

- **Emphasising care**.
- **Emphasise ethical decision-making**.
- **Discuss the circular economy**, analysing how regenerative design and responsible resource use are central to future-facing ecological and economic systems.
- **Media aesthetic education**– Using this as a method that conveys the aesthetic of care as an artistic media approach. Aesthetic education could be implemented as a method that fosters creative and critical thinking through sensory experiences.

Materials Needed:

- Presentation tools: Projector.
- Tools provided: Bibliography.

2. Problematisation sessions: workshops combined with short lectures

Building on the theoretical foundation established in previous sessions, these problematisation workshops will bridge the gap between **theory and practice**, allowing students to critically analyse and apply the **Aesthetics of Care** to real-world case studies.

By the end of these sessions, students will have **analysed real-world applications of the Aesthetics of Care**, translated insights into **new solutions**, and explored the **role of circular economy models** in fostering sustainable and responsible design.

2.1. Learning through case studies Aesthetics of Care (Days 4-6)

Objectives:

To explore real-world applications of the Aesthetics of Care through case studies, using **critical thinking** and the ability to analyse and apply care-centred principles **to their field**

Co-funded by the European Union

of study, ensuring relevance across disciplines such as **art, architecture, science, media, IT, and environmental studies**.

Develop critical thinking skills by assessing how aesthetics, ecology, and ethics intersect in practical applications.

Encourage dialogue, reflection, and refinement of ideas.

Engage in collaborative problem-solving, applying care-centred principles to design and ecological challenges.

Provide a foundational understanding of the circular economy and its relevance to aesthetics, ecology, and design.

Ability to critically analyse real-world examples.

Day 4: Case Study Analysis (120 min)

The Case Study Analysis session is designed to deepen your understanding of how design can be a powerful tool for care, focusing on how aesthetics can support **well-being, inclusivity, and functionality**. During the 120-minute workshop, the students will explore the principles of care-centred design and apply them to real-world case studies that reflect diverse aspects of care.

Activity:

Introduction to Case Study Analysis (30 min.)

The teacher will introduce the core framework for analysing case studies, focusing on care-centered design principles such as empathy, inclusivity, and sustainability. These principles will serve as the foundation for understanding how design choices can impact people's physical, emotional, and social experiences. Through this brief lecture, the students will gain insight into how aesthetics go beyond beauty, influencing both function and the broader human experience.

Workshop - Case Study Selection and Analysis (90 min.)

- Students form groups based on their interests, each selecting a case study to analyse in depth. A variety of options will be available.

Co-funded by the European Union

- Examples of Case studies of AOC (the students can also choose them to reflect their interests):
    - *Accessible Design* - objects for people with limited mobility, or people with arthritis, showing how aesthetics can prioritise function, comfort, and inclusivity.
    - *Healing Spaces*—Using examples like Maggie's Centres, these cancer care centres provide a calming and uplifting environment for patients and families, merging aesthetic appeal with emotional care.
    - *Green Roofs, Community Gardens*
    - *Fashion brands that use recycled materials*
    - *Acoustic Ecology* –Using the project "Der hörweg / The Listening Path" as a case study, which serves as a practical example of how aesthetics can be applied to its auditory use, in a way it is employed as a tool for ecological and auditory experience. It can be described as a sound walk powered by technology and reflects the soundscape of the Environment.
- Groups analyse their selected case studies using the provided framework:
- Students identify and analyse case studies reflecting the Aesthetics of Care.
    - What is the project's context and goal?
    - How does it embody the aesthetics of care?
    - What are the ecological, social, or emotional impacts?

Day 5: Workshop: Applying Case Study Insights (120 min)

After analysing real-world examples of the **Aesthetics of Care** in Day 4, this session shifts the module toward applications. Students will use the insights gained from their case studies to **develop new ideas, adaptations, or solutions** within their fields of study. This workshop encourages creative problem-solving and interdisciplinary collaboration while reinforcing care-centred principles in design, ecology, and social innovation.

It also helps students to creatively adapt principles from their case studies to propose new projects or improvements.

Activity:

*Translate the principles of the **Aesthetics of Care** into new ideas or solutions. (75 min.)*

Co-funded by the European Union

- Groups revisit their **case study findings** and discuss key takeaways.
- Using guided prompts, they brainstorm how similar principles could be applied to new contexts or challenges.
    - Each group sketches or maps out their idea, considering:
    - Context: What is the problem or need?
    - Care-Centred Approach: How does the solution prioritise empathy, sustainability, and inclusivity?
    - Aesthetic & Ecological Integration: How do design, function, and environmental impact interact?
- Examples of adaptations:
- Turning healing space principles into calming public libraries or transport hubs.
- Applying community garden models to urban food-sharing networks.
- Using green roof concepts for vertical farming or energy-efficient housing.

Groups create a visual or narrative representation of their idea (e.g., a sketch, a diagram, or a short presentation).

Share findings (45 min.)

Groups present their case studies and their translated ideas.

Peer feedback focuses on:

- Strength of care-centered principles.
- Potential challenges or refinements.
- Broader applications of their ideas.

The facilitator leads a final discussion on common themes and the challenges of **applying care-centred aesthetics in practice**.

Day 6: Circular Economy Case Studies (120 min)

This session explores the role of the **circular economy in the Aesthetics of Care**, examining how regenerative and waste-free systems influence design, production, and ecological sustainability. Students will analyse real-world case studies where circular economy principles are integrated into projects that prioritise care, sustainability, and aesthetics.

Co-funded by the European Union

Activity:

Introduction to the Circular Economy (30 min)

- Key circular economy concepts:
  - *Waste as a resource*: Designing products that can be reused, repaired, or composted instead of discarded.
  - *Cradle-to-cradle design*: Creating closed-loop systems where materials are continuously cycled.
  - *Regenerative materials*: Using biodegradable, renewable, or upcycled materials.
- Discussion: How does the circular economy embody care, for people and the environment?

Case Study Analysis (60 min)

- Examine real-world examples of circular economy models and their aesthetic and ecological impact.
- Students form small groups and choose or are assigned a case study from various disciplines, such as:
  - *Fashion*: Adidas Futurecraft Loop – a 100% recyclable sneaker designed to eliminate waste.
  - *Architecture*: The Bullitt Center (Seattle) – a self-sustaining building designed to produce zero waste.
  - *Product Design*: Fairphone – a modular smartphone designed for repairability and longevity.
  - *Food Systems*: Too Good to Go – an app that reduces food waste by redistributing surplus meals.
- Groups analyse their case study, addressing:
  - What is the problem the project addresses?
  - How does it implement circular economy principles?
  - What role does aesthetics play in its appeal and function?
  - What are its social and environmental impacts?

Group Presentations and Reflections (30 min)

Co-funded by the European Union

- Groups present their findings (5-7 min/group)
- Class discussion on the key findings and the patterns that emerged across case studies.

Materials Needed:

- Tools for group work: Markers, post-its, and large sheets of paper for diagrams/sketches.
- Tools for brainstorming: Whiteboard & Markers.
- Presentation tools: Projector or whiteboard for group presentations.
- Optional for a design exercise:
  - Cardboard, Recycled Paper & Biodegradable Materials – If students wish to prototype solutions based on case studies.
  - Scissors, Glue, Tape – For assembling materials.
- Tools provided:
  - Case study summaries, circular economy frameworks, and discussion prompts.
  - **The AesthiCo Handbook** includes relevant case studies.

2.2. Learning through games (Days 7-9)

This is a hands-on approach to the **Aesthetic of Care through game-based learning**. These will emphasise experiential learning, allowing students to engage with care-centred design, ecological interdependencies, and ethical decision-making.

Objectives:

Workshop utilising participatory and role-playing games (the 3 games) to explore:

- Aesthetics of care.
- Circular economy
- Ecological interdependencies.
- Ethical dilemmas in care-centered decision-making.
- Creative problem-solving within aesthetic and ecological contexts.

Co-funded by the European Union

Structure and Activities:

The games we recommend are *In the Loop, The Atlas Weak Signals and Revolt*. They can be substituted by any other **care-based decision-making game** found.

Day 7: Game 1 - In the Loop

In the Loop is an interactive game designed to **teach systems thinking, material criticality, and resource management**. It simulates the life cycle of critical materials to engage participants in real-world challenges related to sustainability, economics, and environmental impact. The objective is to accumulate resources and strategically manage their use while balancing ethical and environmental consequences. The game provides a structured experience with a board, event and strategy cards, tokens, and markers that guide players through the decision-making process.

Before gameplay, facilitators prepare materials, introduce game mechanics, and organise participants into teams. During the session, they monitor engagement, clarify rules, and encourage reflective thinking. A crucial part of the experience is the post-game discussion, where players analyse their strategies and consider broader implications.

To improve its educational value, teachers may introduce debriefing activities after gameplay, modify certain mechanics for shorter classroom sessions, and incorporate discussion prompts that align the experience with the Aesthetics of Care, emphasising relationships and sustainability.

Tools Provided:

- *In the Loop* game set (game board, cards, tokens)
- Facilitator guide
- Online tutorial videos
- Reflection worksheets

https://www.youtube.com/@intheloopgames4014

https://youtu.be/wNJOdjmxBJE?si=EcnkNwyH5QQMdIp3

Co-funded by the European Union

Day 8: Game 2 - The Atlas Weak Signals

Mariana Quintero designed the *Atlas of Weak Signals* for Fab Lab Barcelona. It transforms weak signal research into a practical framework for exploring emerging scenarios. The toolkit **helps participants identify opportunities, threats, challenges, and shared visions for innovation, policymaking, intervention, research, and business**.

The exercise is open-ended, allowing for flexibility in structure and execution. It involves using cards and large sheets of paper for impromptu notes and sketches. Participants navigate weak signals by discussing key topics, mapping trends, and collaboratively constructing possible future scenarios. The process fosters critical thinking and group discussions, encouraging speculative approaches to systemic challenges.

By incorporating the *Atlas of Weak Signals* into teaching methodologies, educators can explore how speculative and future scenarios enhance learning and critical thinking, making it a valuable tool for addressing complex systems and fostering innovative approaches.

Tools Provided:

- *Atlas of Weak Signals* cards
- Large sheets of paper for mapping discussions
- Facilitator guide
- Sample scenarios for reference

https://fablabbcn.org/blog/emergent-ideas/atlas-of-weak-signals

Day 9: Game 3 - Revolt

REVOLT is a card game designed by Clément Chabot in 2020 to help players understand the energy consumption involved in daily activities. The game encourages reflection on energy usage and **promotes awareness of the transition toward lower energy consumption** habits. Using the "pedalpunk universe" simplifies energy comparisons, making complex energy concepts more tangible and engaging.

The game involves players guessing how much pedal power is required for different everyday activities. It can be played in multiple ways, but the primary mode involves dividing players into groups and having them select a set of cards representing their daily routines. The

Co-funded by the European Union

goal is to stimulate discussions on energy consumption, provoke surprise at unexpected energy costs, and encourage reflection on sustainable living. While the game primarily focuses on energy, it can also prompt discussions on broader ecological impacts.

By integrating *REVOLT* into educational activities, participants gain a practical and engaging way to reflect on their energy habits, fostering deeper discussions on sustainability and responsible consumption.

Tools Provided:

- *REVOLT* card deck
- Facilitator guide with gameplay variations
- Printable worksheets for energy estimation

Materials Needed:

- Tools for group work: Markers, post-its, large sheets of paper for diagrams/sketches, and writing materials for reflection exercises.
- Tools for brainstorming: Whiteboard & Markers.
- Presentation tools: Projector or whiteboard for group presentations.
- Timer for event-based game mechanics
- Space for group discussions and game setup

2.3. Workshop: Repair-a-thon (Days 10-11)

The **Repair-a-thon** is a hands-on, participatory workshop that explores **repair, restoration, and material sustainability** as essential components of the **Aesthetics of Care**. This workshop challenges students to rethink waste, value, and longevity in a world where planned obsolescence dominates.

Objectives:

- Hands-on engagement with restoration strategies and tactics

Co-funded by the European Union

- Hands-on engagement with recycling and re-use
- Familiarise oneself with Creative thinking / Design thinking
- Introduce affairs of recycling and sustainability
- Engage with creative ways to appropriate materials/articles in different contexts.
- Cultivate imagination and creativity.
- Experiment with a range of materials, developing a general understanding of material applications, limitations and characteristics.
- Understand the origin of materials and question their life cycle

Structure and Activities:

Day 10: Hands-on Laboratory (120 min)

- Preparation: Students are required to bring materials/objects to be recycled/re-used
- Health & Safety: Assess materials, present relevant documents, and ensure students understand how to work safely with the materials/tools at play.
- Reflection: Familiarize oneself with the materials, objects and tools that are available; reflect on what should be repaired and what should be reused/recycled
- Disassemble materials, separate parts of possible interest
- Working groups are formed to work on particular objects/ideas
- Hands-on exploration of the materials/object in focus and their physical, aesthetic, and electrical properties.
- Technology is introduced (e.g. micro-controllers, sensors) to initiate brainstorming in small groups.
- Freeform hands-on experimentation in groups
- Reflection: What has been achieved on this first day? What might be missing in terms of tools/materials?

Day 11: Hands-on Laboratory (120 min)

- Working groups continue with their micro-projects
- Deliver experimental artefacts, works-in-progress, or repaired items

Co-funded by the European Union

Materials Needed:

- Hand tools
  - pliers
  - screwdrivers (Phillips head)
  - metal ruler
  - scissors
  - single hole perforator
  - staple gun
  - stapler (office type)
  - desoldering sucker
  - helping hand or a small vice
  - cutters
  - nose pliers
  - tweezers
  - sewing needles
  - cross peen hammer
  - alligator clips (various colours)
- Electrical tools
  - glue gun
  - heat gun
  - Dremel tool or similar with an assortment of accessories and drills
  - soldering stations / soldering irons
  - digital multimeter
- consumables
  - screws (various types, / M2/3/4 L8/10/16 etc),
  - wood nails
  - glue gun tubes
  - super glue
  - fast-cure epoxy glue
  - scotch tape
  - sewing thread

Co-funded by the European Union

- sugru
- protection
  - gloves
  - glasses
- Materials
  - scrap materials to be recycled
  - unused/unwanted objects
  - broken stuff
  - textiles/pieces of fabric (various types/colours/textures)
  - leather scraps
  - felt fabric
  - pieces of wood
  - pieces of plastics
  - plywood scraps
  - metal sheets
  - metal wire
- Electronic consumables
  - 9V batteries
  - AA/AAA batteries
  - 9V Battery connector
  - AA/AAA Battery enclosures
  - Resistors 1/4W: 10R, 220R, 1K, 2K2,10K, 15K, 100K, 470K, 890K, 1M, 10M
  - Capacitors (plastic film or similar): 1nF, 10nF, 1uF, 470nF (35V)
  - Arduinos or similar
  - LEDs (various colours)
  - LED tape (5V)
  - Small component speakers (8Ohm / 1W)
  - single-core cable (various colours)
  - jumper cable set
  - male-female jumper pins
  - LM324 op-amp DIP-12
  - 10K potentiometers

Co-funded by the European Union

- soldering wire
- heat-shrinks (various sizes)
- insulation tape
- prototyping PCB boards (double sided)

2.4. Workshop: Speculative Design for the Aesthetics of Care (Days 12-13)

This workshop invites students to **imagine and prototype future scenarios** where **care-centered aesthetics, ecological responsibility, and ethical decision-making** shape our environments, technologies, and interactions. Through **speculative design**, students will explore **what care might look like in alternative futures**, challenging conventional assumptions about technology, sustainability, and social structures.

Objectives:

Understand the role of speculative design in shaping care-centered futures.

Structure and Activities:

Day 12: Framing the future of care. (120 min)

Introduction to Speculative Design & The Aesthetics of Care. (30 min)

Brief Lecture & Discussion

- Introduce speculative design as a method and connect it to the aesthetics of care.
- Presentation on speculative design principles, including examples:
  - *Superflux's "Mitigation of Shock"*: a speculative household designed for a climate-changed future.
  - *Dunne & Raby's "United Micro Kingdoms"*: fictional narratives that explore alternative futures.

Co-funded by the European Union

- *IKEA's research lab, "SPACE10"*: explores speculative solutions for sustainable living.
- *MIT Media Lab, "Silk Pavilion"*: A pavilion created by silkworms weaving on a geometrically structured scaffold. The design combines computational design, biomimicry, and the natural behaviour of silkworms.
- *MIT Media Lab, "Aguahoja"*: A series of panels made from biodegradable materials such as cellulose, chitosan, and pectin. These materials mimic the properties of natural ecosystems and decay harmlessly into the environment after use.

- Discuss the aesthetics of care as a framework: How can design reflect empathy, sustainability, and inclusivity?

Future Scenarios (30 min)

Identify and explore speculative themes related to the Aesthetics of Care.

- Future Cities - what does the future city look like?
  - Imagine what a future city looks like.
  - Explore examples from sci-fi media (Her, Wall-E, Elysium).
- Post Anthropocene Aesthetic
- Future Healthcare
- New Materials
- Future Politics
  - Explore examples from sci-fi movies and books- (The Ministry of the Future, Elysium)

Initial Concept Development & Sketching (60 min)

Develop concepts based on the chosen theme. This is a group activity.

- Students are divided into small groups.
- Students create a visual board with images.
- They develop narratives about the interaction between people and these care-centered futures.
- Outline ethical and ecological considerations
- They present a rough idea to their peers for feedback.

Co-funded by the European Union

Day 13: Prototyping & Presenting Future Aesthetics (120 min)

- *Prototyping & Material Exploration (60 min)*
- *Group Presentations & Feedback (45 min)*
- *Final Reflection (15 min)*

Materials Needed:

- Presentation Tools: Projector, screen, and printed case study examples.
- Prototyping Supplies: Sketchbooks, markers, recycled materials (optional).
- Collage & Storytelling Materials: Magazines, glue, scissors, post-its.
- Digital Tools (if available): Laptops/tablets.

3. Reflection & Assessment (Days 14-15)

Day 14: Reflection and Discourse

- Guided reflective exercises to assess learning.
- Group discussions on personal and collective takeaways.
- Integration of theory and practice: What does care mean in a technological and ecological context?

Day 15: Final Assessment

- Individual or group projects; synthesising module themes.
- Presentations or portfolios showcasing the aesthetics of care in practice.

Co-funded by the European Union

III. COURSE DESCRIPTOR

Objectives:

- Provide students with a comprehensive understanding of the interconnections between Technē, Ecology, and Aesthetics, and their relevance in addressing contemporary challenges.
- Equip students with practical tools and methodologies to apply care-centered frameworks in ecological, technological, and artistic contexts.
- Foster interdisciplinary collaboration and creative problem-solving that integrates ethical, aesthetic, and ecological considerations.
- Encourage critical reflection and personal connection to the principles of care in theory and practice.

Learning outcomes: Mastery of Technē, ecology, and aesthetics principles.

Methodologies: Lectures, workshops, case studies, role-playing, game-playing, and speculative design.

Assessment: Participation (%), glossary/project (%), final test (%).

IV. Alternative AesThiCo Module Structure

- 15-day version spanning one month.
- Focus on immersive, continuous engagement with 3-4 teaching days per week.
- A more flexible or experimental module design:
  - Self-directed learning tracks.
  - Open-source project-based learning.
  - Collaborative content creation with students contributing new material for subsequent iterations.

Co-funded by the European Union

Bibliography

1.1 Aesthetics

Art and Aesthetics https://iep.utm.edu/art-and-epistemology/

The Concept of the Aesthetichttps://plato.stanford.edu/entries/aesthetic-concept/

Arnheim, R. (1974). *Art and visual perception: A psychology of the creative eye*. Berkeley, CA: the University of California Press.

Bennett, T., Cameron, F., Dias, N., Dibley, B., Harrison, R., Jacknis, I., & McCarthy, C. (2017). *Collecting, ordering, governing: Anthropology, museums, and liberal government*. Durham, NC: Duke University Press.

Boylan, A. L. (2020). *Visual culture*. Cambridge, MA: The MIT Press.

Danto, A. C. (2006). Embodied meanings, isotypes and aesthetical ideas. In *Global theories of the arts and aesthetics* (pp. 1-20). Hoboken, NJ: Wiley-Blackwell.

DeSilvey, C. (2006). Observed decay: Telling stories with mutable things. *Journal of Material Culture*, 11(3), 318–338.

DeSilvey, C. (2017). *Curated decay: Heritage beyond saving*. Minneapolis, MN: the University of Minnesota Press.

Devine, K. (2019). *Decomposed*. Cambridge, MA: The MIT Press.

Groves, C. (2014). *Care, uncertainty and intergenerational ethics*. London: Palgrave MacMillan. Retrieved from https://www.academia.edu/9621426/Care_Uncertainty_and_Intergenerational_Ethics

Itten, J. (1963 and 1964). *Mein Vorkurs am Bauhaus: Gestaltungs- und Formenlehre* [Design and form: The basic course at the Bauhaus]. Stuttgart: Maier & Thames & Hudson.

Jackson, S. J. (2014). Rethinking repair. In T. Gillespie, P. J. Boczkowski, & K. A. Foot (Eds.), *Media technologies: Essays on communication, materiality, and society* (pp. 221–239). Cambridge, MA: The MIT Press.

Louridas, P. (2020). *Algorithms*. Cambridge, MA: The MIT Press.

Mihai, M. (2022). *Political memory and the aesthetics of care: The art of complicity and resistance*. Stanford, CA: Stanford University Press.

Milligan, C., & Wile. (2010). Landscapes of care. *Progress in Human Geography*, 34(6), 736–754.

Möbius, K. (1908). *Ästhetik der Tierwelt*. Fischer.

Morse, N. (2020). *The museum as a space of social care*. New York: Routledge.

Co-funded by the European Union

Ponce de León, J. (2021). Another aesthetics is possible: Arts of rebellion in the Fourth World War. Durham, NC: Duke University Press.

Rice, P. (2017). *An engineer imagines*. London: Batsford.

Robinson, S. (1992). *Red Mars*. New York: Harper Voyager.

Robinson, S. (1993). *Green Mars*. New York: Harper Voyager.

Robinson, S. (1996). *Blue Mars*. New York: Harper Voyager.

Robinson, S. (2020). *The Ministry for the Future*. New York: Harper Voyager.

Saito, Y. (2016). Body aesthetics and the cultivation of moral virtues. In S. Irvin (Ed.), *Body aesthetics* (pp. 225–243). Oxford: Oxford University Press.

Saito, Y. (2022). *Aesthetics of care: Practice in everyday life*. London: Bloomsbury Academic.

Thompson, J. (2015). Towards an aesthetics of care. *Research in Drama Education: The Journal of Applied Theatre and Performance*, 20(4), 430–441.

Thompson, James. (2023). *Care Aesthetics: For Artful Care and Careful Art*. London: Routledge.

van de Velde, H. (1910). Die Belebung des Stoffes als Prinzip der Schönheit. In H. van de Velde (Ed.), *Essays* (pp. 5–21). Insel Verlag

1.2. Architecture & Urban Design

Cuff, D. (2023). *Architectures of spatial justice*. Cambridge, MA: The MIT Press.

De Botton, A. (2006). *The architecture of happiness*. New York: Pantheon Books.

James, P. (2014). *Urban Sustainability in Theory and Practice: Circles of Sustainability*. Routledge.

Lehtinen, S. (2020). Buildings as objects of care in aesthetics. In Z. Somhegyi & M. Ryynänen (Eds.), *Dialogue: Applying philosophy of art in a global world* (pp. 223–236). Berlin: Peter Lang.

Leach, N. (1999). *The anaesthetics of architecture*. Cambridge, MA: The MIT Press.

Milligan, C. & Wiles, J. *Landscapes of Care*. (2010). Progress in Human Geography, *34*(6), 736-754.

Nia, H. A., & Atún, R. A. (2016). Aesthetic design thinking model for urban environments: A survey based on a review of the literature. *Urban Design International*, 21(3), 195-212.

Co-funded by the European Union

Nia, H. A. (2021). The role of urban aesthetics on enhancing vitality of urban spaces. *Khulna University Studies*, 18(2), 59-77.

Schumacher, E. (1973). *Small is beautiful: A study of economics as if people mattered*. London: Blond & Briggs.

Spaeth, A. B. (2019). Aesthetics in computational design: A reflection on Max Bense's theory on aesthetics of information and state of things. In J. P. Sousa, G. C. Henriques, & J. P. Xavier (Eds.), *Architecture in age of the 4th industrial revolution: Proceedings of the 37th International Conference on Education and Research in Computer Aided Design in Europe* and the 23rd Conference of the Iberoamerican Society of Digital Graphics (Vol. 2, pp. 855–862). Brussels; Rio de Janeiro; Porto: eCAADe; SIGraDi; FAUP.

Ståhlberg-Aalto, F. (2019). *The aesthetics and architecture of care environments: A Q methodological study of ten care environments in Japan and the European countries of Finland, Sweden, the UK, France and Austria*. Helsinki: Aalto ARTD Books.

Steiner, R. (1985). *Kunst und Kunsterkenntnis: Grundlagen einer neuen Ästhetik* [Art as spiritual activity]. Dornach: Rudolf Steiner Verlag.

Thompson, H. I. (2005). *Ecology, community and delight: Sources of value in landscape architecture*. New York: Taylor & Francis Group.

Winters, E. (2007). *Aesthetics and architecture*. London: Continuum International Publishing Group.

1.3. Aesthetics & Technology

Citton, Y. (2017). *The ecology of attention*. Cambridge, UK: Polity Press.

Hui, Y. (2021). *Art and cosmotechnics*. Minneapolis, MN: the University of Minnesota Press.

Manovich, L., & Arielli, E. (2021). Even an AI can do that. In *Artificial aesthetics: A critical guide to AI, media and design*. Retrieved from http://manovich.net/index.php/projects/artificial-aesthetics

Munster, A. (2013). *An aesthesia of networks: Conjunctive experience in art and technology*. Cambridge, MA: The MIT Press.

Schafer, R. M. (1992). *A sound education: 100 exercises in listening and sound-making*. New York: Arcana Editions.

Sennett, R. (2008). *The craftsman*. New Haven, CT: Yale University Press.

Co-funded by the European Union

Steyerl, H. (2012). *The wretched of the screen*. Berlin: Sternberg Press.

Weibel, P., Fruk, L., & Zentrum. (2013). *Molecular aesthetics*. Cambridge, MA: The MIT Press.

1.4. Aesthetics & Engineering

Arnau Amo, J., & Songel González, J. M. (2010). La estética en la ingeniería: ¿materia pertinente o impertinente? *Aesthetics in engineering: Pertinent or impertinent? Revista de Obras Públicas*, 157(3510), 31–44.

Brey, P. Understanding engineering design and its social, political, and moral dimensions. In *The Oxford handbook of philosophy of technology*. Oxford University Press.

Chinchilla, I. (2020). *La ciudad de los cuidados*. Los libros de la Catarata.

Manterola, J. (2010). *La obra de ingeniería como obra de arte*. Laetoli Editorial.

Petroski, H. (2023). *To engineer is human: The role of failure in successful design*. New York: Vintage.

1.5. Aesthetics & Ecology

Dong, L., Liu, Z., & Bian, Y. (2021). Match circular economy and urban sustainability: Re-investigating circular economy under sustainable development goals (SDGs). *Circular Economy and Sustainability*, 1(1), 243–256.

2. Philosophy of Technology

Fisher, B., & Tronto, J. (1990). *Toward a feminist theory of caring. Circles of care: Work and identity in women's lives*, New York: State University of New York Press.

Fraser, N. (2016). 'Contradictions of capital and care'. *New Left Review*, 99–117.

Fraser, N. (2021). *Cannibal Capitalism*. London, New York: Verso.

Gilligan, C. (1982). *In A Different Voice*. Massachusetts: Harvard University Press.

Gilligan, C. (2011). *Joining the Resistance*. Cambridge: Polity.

Groys, B. (2022). *Philosophy of care*. London: Verso Books.

Lynch, K. (2022). *Care and Capitalism.* Cambridge: Polity.

Co-funded by the European Union

Heidegger, M. (2000). Die Frage nach der Technik. In F.-W. von Herrmann (Ed.), *Gesamtausgabe: I. Abteilung: Veröffentlichte Schriften 1910-1976, Band 7, Vorträge und Aufsätze* (pp. 5-36). Frankfurt am Main: Vittorio Klostermann.

Kamlah, W. (1972). *Philosophische Anthropologie: Sprachkritische Grundlegung und Ethik*. Mannheim: Bibliographisches Institut.

Stiegler, B. (2010). *Taking care of youth and the generations*. Stanford, CA: Stanford University Press.

Stiegler, B. (2018). *The Neganthropocene*. London: Open Humanities Press.

Co-funded by the European Union