Curriculum

BEYOND CIRCULAR DESIGN | SKILLS FOR SYSTEMIC CHANGE

CIRCULAR DESIGN TRAINING PROGRAM

Course Structure

Course descriptions, methodological materials, teaching materials

Estonian Design Centre disainikeskus.ee

EESTI DISAINI KESKUS — ESTONIAN DESIGN CENTRE

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LAB University of Applied Sciences

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Beyond Circular Design: Skills for systemic change

Aim:
The curriculum aims to equip designers to evolve into circular design leaders within their respective industries. It focuses on understanding the shifting role of designers, learning from those already implementing circular design principles, and effectively integrating circularity into specific design fields. It also seeks to empower designers to navigate obstacles, capitalize on opportunities, and drive the transition towards a circular economy. Ultimately, it promotes the development of future-oriented design skills.

Access conditions (Eligibility and prerequisites):
Design education; product/ service development ownership, design thinking practice.

Learning outcomes

- Understand systems thinking and its application to design and sustainability.
- Analyze complex interconnected systems (natural and human-made) and their impact on design.
- Apply circular economy principles to design products, services, and business models.
- Develop sustainable design strategies that minimize negative environmental impact and promote social equity.
- Use design tools and methods to measure and evaluate the environmental and social impact of design solutions.
- Foster innovation and develop future-oriented design solutions that address sustainability challenges.
- Collaborate with stakeholders and communicate design ideas effectively.
- Adapt to the evolving role of the designer in driving the transition towards a circular economy.

Evaluation methods

- Essays and Reports: Students will demonstrate their understanding of concepts and their ability to apply them through written assignments.
- Presentations: Students will present their design proposals, research findings, and reflections, showcasing their communication and presentation skills.
- Design Projects: Students will engage in individual or group design projects, applying circular design principles and methodologies to real-world challenges.
- Case Study Analyses: Students will analyze real-world examples of circular design implementation, evaluating their effectiveness and impact.
- Circular Design Field Analysis: Students will analyze circular design opportunities within their specific fields.
- Circular Design Interview and Reflection: Students will conduct interviews with designers applying circularity in practice and reflect on the insights gained.
- Circular Design Vision for Your Field: Students will develop a future-oriented vision for circularity in their design field.

- Personal Circular Design Framework and Reflection: Students will create a personal framework to guide their circular design practice and reflect on its development.
- Circular Design Methodology Portfolio: Students will compile a portfolio showcasing their selection, adaptation, and application of circular design methods.

Workload: 390 acad/h 15 ECTS
Classroom: 195 acad/h
Independent: 195 acad/h

Learning method introduction:
ICAP learning framework.

- Lectures: To provide foundational knowledge and theoretical frameworks.
- Discussions: To encourage critical thinking, exchange ideas, and promote collaborative learning.
- Case study analyses: To examine real-world examples and apply concepts to practical situations.
- Workshops: To provide hands-on experience with design tools and methodologies.
- Individual and group projects: To facilitate the application of knowledge and the development of design solutions.
- Presentations: To enhance communication skills and the ability to articulate design ideas.
- Self-reflection: To encourage students to critically evaluate their own learning and development.
- Independent research, interviews, experiments.

Study program structure

		15.0
Module 1	Systems	3.0
Module 2	People	3.0
Module 3	Business	3.0
Module 4	Design Field	3.0
Module 5	Design Process	3.0

Module 1

Name	**SYSTEMS**
The world is built on natural, social, and technological interconnected systems. Designers must move beyond focusing on individual problem and consider how things function within larger systems. This module introduces systems thinking as a core skill for sustainable design, helping designers create solutions that work within ecological, social, and economic boundaries.	

Courses:

Title	ETCS	Contact	Independent
1.1.Basics of Ecology: Understanding Interconnectedness	1		
1.2. Human-Made Systems and Complexity	1		
1.3.Measuring and Evaluating System Impact	1		

Brief	This module explores designing for systems, beginning with an ecological foundation that emphasizes natural systems, interconnectedness, and environmental sustainability. It then applies systems thinking to human-made systems, analysing their complexities, material flows, and unintended consequences. The module also provides methods for evaluating the impact of system-level interventions, examining governance, policy, and tools for assessment and adaptation.
Aim	**Understand complex interconnections:** To move beyond linear thinking and recognize how natural, social, and technological systems are interconnected. **Apply systems thinking:** To use systems thinking tools and methods to analyze complex problems, identify leverage points for change, and design effective interventions. **Make informed decisions:** To evaluate the potential consequences of design decisions across different systems and time scales.
Evaluation	Mapping out the material flow of a material important in the student's practice - finding the hidden stakeholders in your system
Literature	• "Design Journeys through Complex Systems" by Peter Jones and Kristel Van Ael • Sustainability guide -https://sustainabilityguide.eu/ • "Thinking in Systems: A Primer" Donella Meadows • “We have never been modern” Bruno Latour

	• "The Fifth Discipline: The Art & Practice of The Learning Organization" Peter Senge • "Systems Thinking" Peter Checkland • "Systems Thinking for Social Change: A Practical Guide to Solving Complex Problems, Avoiding Unintended Consequences, and Achieving Lasting Results" David Peter Stroh • "Ecology: The Economy of Nature" Robert Ricklefs • "Ecological Footprint: Managing Our Biocapacity Budget" Mathis Wackernagel and William Rees • "Life Cycle Assessment: Principles and Practice" Manfred Lenzen, Jeroen Guinée • Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. *Nature*, *461*(7263), 472-475. • The European Green Deal: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en • European Environment Agency (EEA): https://www.eea.europa.eu/ • Ellen Macarthur Foundation And Granta Design: Circularity Indicators An Approach To Measuring Circularity • https://online.unschools.co/collections/systems-thinking • Biomimicry: Innovation Inspired By Nature: https://www.biomimicry.net/product/janine-book/

1.1	Basics of Ecology: Understanding Interconnectedness
Why?	• The need to shift from linear to circular thinking • The necessity of working with planetary boundaries • Nature as an efficient, self-regulating system
What?	• **Ecosystem Dynamics** – How ecosystems function, including the flow of energy and matter • **Trophic Levels & Food Webs** – The relationships between producers, consumers, and decomposers in an ecosystem. • **Resilience & Adaptation** – How ecosystems recover from disruptions and adapt over time. • **Material & Energy Flows** – Understanding nutrient cycles (carbon, nitrogen, water)
Examples:	• Forests as self-sustaining systems – How forests regulate themselves through biodiversity, decomposition, and nutrient cycling • Mycelium Networks – Fungal communication systems that distribute nutrients and support biodiversity. • Circular Systems in Nature – How nothing is wasted in natural cycles (e.g., decomposition in rainforests) • Coral Reef Ecosystems – High-complexity environments that illustrate species interdependence
How?	• Systems Thinking in Ecology – Identifying feedback loops and dependencies in nature. • Ecosystem Mapping – Creating visual models of energy and material flows in a given ecosystem. • Biomimicry & Bio-Inspired Design – Studying natural systems to apply similar principles in human design
Learning outcomes	• Know what sustainability is from an ecological perspective • Be able to measure impact by analyzing ecological interconnections • Understand how systems thinking applies to natural systems • Define and draw material flows in nature (nutrient cycles, carbon cycle)
Possible assignments	• Ecosystem Analysis and Material Flow Diagram • Comparative Analysis of Ecosystem Resilience • Biomimicry Design Project

1.2	Human-Made Systems and Complexity
Why?	• The increasing complexity of global challenges (climate, economy, tech) • The need for systems awareness in decision-making • Understanding the impact of interconnected decisions • From analysis to synthesis
What?	• Complex Systems & Emergence – How human systems develop, grow, and adapt similarly to ecosystems. • Unintended Consequences – Why interventions in systems often create unforeseen challenges (e.g., traffic congestion paradox) • Circular Economy Principles – The shift from linear (take-make-waste) to circular (reuse-repair-recycle) systems • Urban Metabolism – Cities as living organisms with inputs (resources) and outputs (waste, emissions). • Industrial Symbiosis – How businesses can work together like ecosystems, exchanging waste as resources.
Examples:	• Urban Infrastructure Systems – Transportation, water supply, energy grids, and how they interconnect. • Supply Chains – How products travel from raw materials to consumers and back into waste streams • Fashion & Fast Consumption – The unintended systemic impacts of fast fashion, microtrends, and globalized production • Digital Ecosystems – Social media algorithms, platform economies, and network effects
How?	• Causal Loop Diagrams (CLDs) – Showing reinforcing and balancing feedback in human systems • Visualizing Systems & Connections – Using diagrams and infodesign to map how components of a system relate. • Network Mapping – Identifying key actors, dependencies, and leverage points in a system.
Learning outcomes	• Understand how systems thinking works in human-made environments • Analyze material flows in industrial and social systems • Be able to justify the need for a systematic approach in design • Identify and apply the right tools for mapping and intervention
Possible assignments	• Case Study Analysis of Unintended Consequences • System Map of a Human-Made System • Reflective Essay: Justifying a Systems Approach

1.3	Measuring and Evaluating System Impact
Why?	The challenge of long-term systemic change The role of policy and incentives in shaping systems The need for adaptable, resilient solutions in governance and society
What?	• Life Cycle Thinking – Understanding the total environmental impact of a product/system from extraction to disposal. • Sustainability Metrics & Indicators – Defining what sustainability means in measurable terms. • Uncertainty & Data Limitations – The challenge of making decisions with incomplete or imperfect information. • Regulatory Frameworks – Overview of EU tools and sustainability policies affecting design decisions. • Interpreting Impact Data – How to translate carbon footprints, energy usage, and material flows into meaningful insights.
Examples	• LCA Case Studies – Analyzing the life cycle of different products/ materials/services • EU Sustainability Tools – An overview of key EU regulatory tools for environmental impact assessment and their impact so far • Food Chains & Resource Flows – Mapping energy loss and inefficiency across supply chains - how a company has made their process more efficient • Bill of Materials (BOM) Analysis – Understanding how different materials contribute to a product's impact - how a company has changed its materials to the better
How?	• Life Cycle Assessment (LCA) – A systematic approach to measuring environmental impact from production to disposal. • Material Flow Analysis (MFA) – Tracking resource use and waste streams across different industries. • Bill of Materials (BOM) Mapping – Breaking down a product into its components to analyze sustainability. • Critical Tool Evaluation – Comparing existing sustainability measurement tools and identifying their strengths/weaknesses.
Learning outcomes	• Be able to analyze system-level interventions (e.g., carbon taxes, urban planning) • Understand how systems are managed and governed (policies, incentives, regulations) • Apply methods for forecasting change and adapting systems over time
Possible assignements	• Life Cycle Assessment (LCA) of a Product • Policy Analysis and System Intervention • Sustainability Metrics and Reporting

Module 2			
Name	**PEOPLE**		
Design does not exist in isolation—it shapes and is shaped by human behavior, biases, and cultural context. Understanding how people think, decide, and act is essential for creating effective and impactful solutions.			
Courses:			
Title	ETCS	Contact	Independent
2.1.Understanding Human Behavior & Decision-Making	1		
2.2. User Research & Influence Strategies	1		
2.3. Designing for Long-Term Impact & Social Well-being	1		

Brief	This module explores the critical role of human behavior, biases, and cultural context in design. It gives students the knowledge and skills to understand how people think, decide, and act. It enables them to create effective and impactful solutions that promote long-term behavior change and social well-being.
Aim	This module provides designers with the tools and knowledge to create solutions that are not only effective but also ethical, sustainable, and socially equitable, which are all essential aspects to consider.
Evaluation	Project: An analysis of the target user's behavior and decision-making processes (Part 1), including a behavior map and application of the COM-B model.
Literature	● "Thinking, Fast and Slow" Daniel Kahneman ● "Behave: The Biology of Humans at Our Best and Worst" Robert Sapolsky ● "Atomic Habits: An Easy & Proven Way to Build Good Habits & Break Bad Ones" James Clear ● "Hooked: How to Build Habit-Forming Products" Nir Eyal ● "Design for the Real World: Human Ecology and Social Change" Victor Papanek ● "Culture Builders" Orvar Löfgren and Jonas Frykman

	● "Nudge: Improving Decisions About Health, Wealth, and Happiness" Richard H. Thaler and Cass R. Sunstein ● "The Design of Everyday Things" Don Norman ● "Design for better world. Meaningful, Sustainable, Humanity Centered. The MIT Press." Donald Norman, ● "Influence: The Psychology of Persuasion" Robert Cialdini ● "User Research Methods: A Practical Guide for Designing and Testing User Experiences" Carol Barnum ● "Interviewing Users: How to Uncover Compelling Insights" Steve Portigal ● "100 Things Every Designer Needs to Know About People" Susan Weinschenk ● "Persuasive Technology: Using Computers to Change What We Think and Do" B.J. Fogg ● "Designing Sustainable Futures. How to Imagine, Create, and Lead the Transition to a Better World." Press, J. and Celi, M ● "Cradle to Cradle: Remaking the Way We Make Things" William McDonough and Michael Braungart ● "The Limits to Growth" Donella H. Meadows, Jørgen Randers, and Dennis L. Meadows ● "Prosperity Without Growth: Foundations for the Economy of Tomorrow" Tim Jackson ● "Designing for Social Innovation: Solutions-Focused Design for Positive Social Change" Mariana Amatullo ● "Emotional Design" Donald Norman ● "Emotionally Durable Design Objects, Experiences and Empathy", Chapman, J. ● "We Have Never Been Modern" Bruno Latour

2.1	Understanding Human Behavior & Decision-Making
Why?	• Current crises are humansproblem - from good intention to action • Need the shift in behaviors and to change the norms • Cognitive biases shape habits and choises
What?	• **The Science of Decision-Making (System 1 & Systems thinking)** • **Cognitive Biases & Heuristics** • **Cultural Norms & Social Influence** • **Behavioral Patterns & Motivation**
Examples:	• How default options influence behavior (organ donation, store receipts) • Cross-cultural design differences in response to eco-friendly solutions
How?	• COM-B Model • Behavior Mapping • Empathy Mapping
Learning outcomes	• Understand why people behave the way they do (cognitive biases, social norms, motivation). • Identify and map user behaviors and their connection to needs and environments. • Apply behavioral models (COM-B, heuristics) to design challenges.
Possible assignments	• Behavior mapping assignment • COM-B in a design challenge

2.2	User Research & Influence Strategies
Why?	• How to make sustainability sexy • Ethics. Nudging vs manipulation • Social contexts in dev.
What?	• **User-Centered vs. User-Driven Research** • **Market & Social Trends (macro, micro, mega trends)** • **How Behaviors Are Sustained or Changed** • **Ethical considerations of nudging and manipulation**
Examples:	• Nudging in policy & design • Gamification in sustainability apps • Radical desirability & sufficiency (patagonia's "don't buy this jacket")

How?	• Gamification • Research & User Interviews • Design With Intent (Lockton's Toolkit)
Learning outcomes	• Understand why people behave the way they do (cognitive biases, social norms, motivation). • Identify and map user behaviors and their connection to needs and environments. • Apply behavioral models (COM-B, heuristics) to design challenges.
Possible assignments	• Design of a persuasive intervention • User research plan

2.3	**Designing for Long-Term Impact & Social Well-being**
Why?	• The need for lasting solutions • The intersection of social well-being and sustainable design • Sufficiency within earth boundaries
What?	• **How to Create Lasting Value** • **Sufficiency & Post-Growth Design** • **Design for Social Well-being** • **The intersection of social well-being and sustainable design.** • **The growing movement toward sufficiency and mindful consumption**
Examples:	• Behavior change in mobility (bike-friendly cities) • Social wellbeing through design (community spaces) • Sufficiency in product design
How?	• Holistic User Perspective • Systems Mapping for Behavior Change • Post-Growth & Circular Business Models (from consumer's perspective) • Future foresight
Learning outcomes	• Understand why people behave the way they do (cognitive biases, social norms, motivation). • Identify and map user behaviors and their connection to needs and environments. • Apply behavioral models (COM-B, heuristics) to design challenges.
Possible assignments	• Analysis of the Social Impact of an Eco-Crisis • Design for Long-Term Impact and Social Well-being

Module 3

Name	**BUSINESS**

Designers play a crucial role in shaping businesses, ensuring they are resilient, sustainable, and future-proof. Understanding business models, regulations, and systemic challenges is essential for influencing decision-making in companies.

This module focuses on developing sustainable and regenerative business practices through design. It introduces sustainable business practices, providing an overview of sustainability in business and emphasizing the importance of integrating sustainability into business models. The module empowers designers to create resilient, sustainable, and future-proof businesses by providing them with the knowledge, tools, and perspectives needed to understand business models, navigate challenges, and drive the transition to circularity and sustainability.

Courses:

Title	ETCS	Contact	Independent
3.1. Understanding Business Models & Market Forces	1		
3.2. Circular Business Models & Systemic Challenges	1		
3.3. The Future of Sustainable Business & Impact Measurement	1		

Brief	• Understand the fundamentals of business models and market forces. • Apply circular economy frameworks and develop sustainable business strategies. • Comprehend how businesses measure their social and environmental impact. • Utilize future foresight techniques to drive business innovation. • Ultimately, create value in businesses by applying circular principles and promoting sustainable practices.
Aim	To equip designers with the knowledge, tools, and perspectives necessary to shape businesses into resilient, sustainable, and future-proof entities, by

	understanding business models, navigating systemic challenges, and driving the transition towards circular and sustainable practices.
Evaluation	• Analyze a linear business with a business model canvas. • Fill a "circular business model canvas" for the same business. • Create a pitch to the business: why and how should they become circular?
Literature	• “Cradle to Cradle: Remaking the Way We Make Things” Michael Braungart and William McDonough • **“**Speculative Everything: Design, Fiction, and Social Dreaming” Anthony Dunne and Fiona Raby • “Designing Regenerative Cultures” Daniel Christian Wahl • **“**The Regenerative Business: Redesign Work, Cultivate Human Potential, Achieve Extraordinary Outcomes” Carol Sanford • Business Models in a Circular Economy by European Environment Agency (EEA) (or Eionet) • **“**Circular Economy: Challenges and Opportunities for Ethical and Sustainable Business**”** edited by Helen Kopnina (June 2021) • "Circular Metrics for Business: Finding opportunities in the circular economy" Circle Economy, 2020 • "Circular Strategies for Success" Anne Raudaskaski, • "How to Go Full Circle: The Circular Business Model" Danish Design Centre • "Rethinking corporate sustainability in the era of climate crisis: a strategic design approach." Godelnik, Raz. • "Swivel to Sustainability: A Guidebook to Full Systems Business Transformation" Leyla Acaroglu

3.1	Understanding Business Models & Market Forces
Why?	• Many businesses struggle to transition to circularity despite its necessity. • Understanding business models helps designers create meaningful proposals. • Regulations are changing slowly, but companies must prepare early.
What?	• **How Businesses Work – Basics of business models, value creation, and market forces.** • **Systemic Thinking in Business – How businesses intersect with political, economic, and environmental systems.** • **Resilience in Business – How companies stay competitive and adapt..**
Examples:	• Traditional vs. Circular Business Models • Nordic Leadership in Circularity – How Sweden, Norway, and Finland prepared early for sustainability regulations. • Failed Circular Startups – Cases where circular businesses struggled to scale (e.g., rental fashion platforms, biodegradable packaging).
How?	• Business Model Mapping – Identifying key components of a business and the potential for circularity. • Competitor Benchmarking – Comparing business strategies to identify gaps and opportunities. • Regulatory Landscape Analysis – Understanding how upcoming regulations shape business strategy. • Greenwash spotting
Learning outcomes	• Understand how different business models function. • Identify barriers to circular business success. • Apply basic business model mapping techniques.
Possible assignments	• Circular Business Model Transformation Plan

3.2	Circular Business Models & Systemic Challenges
Why?	• Designers help companies to define and redefine the value proposition • Lack of clarity in circular business transition • Economical and political influence to business transition (feasibility)
What?	• **Different Circular Business Model Concepts – Closed-loop, product-as-a-service, regenerative models.** • **Linear vs. Circular Business Models – What distinguishes them and why circularity is challenging.** • **The Challenge of Implementing Circularity – Supply chain difficulties, financing, customer adoption.** • **Why Circular Startups Struggle – Barriers like funding, scalability, policy gaps, and consumer habits.**
Examples:	Speculative Business Models – How businesses might function in post-growth economies.
How?	• Systems Mapping for Business – Identifying economic and policy influences on business models. • Circular Business Model Canvas – A tool for mapping business opportunities within circularity. • Co-Creation with Businesses – Engaging businesses in circular strategy workshops.
Learning outcomes	• Identify policy and economic challenges for circular businesses. • Apply circular business model frameworks. • Develop and justify business model adaptations.
Possible assignments	• Future Business Model Scenario

3.3	Circular Business Models & Systemic Challenges
Why?	● The impact of a business is becoming as important as profit ● Designers need to be able to communicate their value to business stakeholders ● Transition to sustainable businessmodels
What?	● **Impact Measuring Tools (ESG & Beyond) – How businesses track environmental and social progress.** ● **Future Foresight & Business Innovation – Anticipating shifts in consumer behavior, policy, and technology.** ● **Designing for Sufficiency – Moving away from growth-driven business models.**
Examples:	● ESG & Corporate Responsibility – How major corporations are adapting (or failing) to meet sustainability goals. ● Alternative Business Models – Doughnut Economics, Indigenous approaches to business. ● Designing for Resilience – Businesses that thrive in uncertainty.
How?	● ESG & Circularity Impact Metrics – Evaluating business performance beyond financial profit. ● Scenario Planning & Speculative Design – Exploring possible futures for businesses. ● Future foresight
Learning outcomes	● Understand how businesses measure impact (ESG, sustainability reports). ● Apply future foresight techniques to business innovation. ● Create value in a business by applying circular principles
Possible assignments	● Impact Measurement and Reporting Proposal

Module 4

Name	**Design field**
The role of designers is shifting from product creators to system thinkers. Designers must adapt, learn from others, and apply circular design within their own field. This module prepares designers to navigate this evolving landscape, learn from practicing designers, and effectively integrate circularity into their specific design fields.	

Courses:

Title	ETCS	Contact	Independent
4.1 Changing role of the designer	1		
4.2 Learning from Practicing Designers	1		
4.3 Circularity in my field	1		

Brief	This module equips designers to meet the sustainability challenge by supporting them in transforming into circular design leaders within their specific industry. The module offers learning from pioneering designers, guidance on navigating the unique obstacles and opportunities in their field, and expertise to drive the transition towards a circular economy. The module equips designers with the ability to adapt to design's evolving role, learn from practicing designers, and effectively integrate circular design principles into their specific fields.
Aim	To equip designers with the ability to adapt to the evolving role of design, learn from practicing designers, and effectively integrate circular design principles into their specific fields.
Evaluation	• Circular Design Field Analysis • Circular Design Interview and Reflection • Circular Design Vision for Your Field
Literature	• "Universal Principles of Design, Updated and Expanded Third Edition" William Lidwell • "Design for a Better World: Meaningful, Sustainable, Humanity Centered" Donald A. Norman • "Design for the Real World: Human Ecology and Social Change" Victor Papanek • "The Responsible Object: A History of Design Ideology for the Future" Marjanne Van Helvert

	• "Products That Last: Product Design for Circular Business Models" Conny Bakker • "Handbook of the Circular Economy" edited by A. Alexander, S. Pascucci, F. Charney • "Thinking about the Future: Guidelines for Strategic Foresight" Andy Hines and Peter Bishop • "Understanding the Role of the Designer in Society" Jill L. Grant • "A Sustainable Design Handbook" • The Upcycle: Beyond Sustainability-Designing for Abundance." McDonough, W. & Braungart • "Towards Tangibility. Organizations and Designers on the Brink of Sustainability Transition" Ornamo, 2025

4.1	**Changing role of the designer**
Why?	• To help designers understand how their role is changing in the context of a circular economy and to identify the new skills required.
What?	• From Object-Maker to System Thinker – How the designer's role is evolving. • Designers as Circular Change-Makers – Moving beyond aesthetics to strategy and impact. • Industry-Specific Knowledge & Skills – Why circular design requires field-specific expertise. • Designer as the facilitator
Examples:	• The Role of Designers in Circular Business – How designers are shaping sustainability strategies. • Material-Focused vs. System-Focused Designers – Case studies of designers working with materials vs. systems change.
How?	• Stakeholder Mapping – Understanding how designers collaborate with businesses, policymakers, and users. • Comparative Analysis of Designer Roles – Studying how designers in different fields approach circular challenges. • Mapping Circular Gaps & Opportunities – Identifying areas where circularity is underdeveloped.
Learning outcomes	• Understand how the role of a designer is evolving in a circular economy. • Identify how different industries require different design skills.
Possible assignments	• Circular Design Field Analysis

4.2	Learning from Practicing Designers
Why?	• To provide designers with practical insights and knowledge from those who are already implementing circular design principles.
What?	• Which design is circular? - circular design principles • Case Studies from Practicing Designers – Interviews with professionals who transitioned to circularity. • Business-Designer Collaborations – How companies and designers co-create circular solutions.
Examples:	• Aalto University Case Studies – Innovative circular design projects in academia. • Policy-Driven vs. Market-Driven Transitions – Comparing regions where businesses lead vs. where regulation forces change.
How?	• Interviewing a Practicing Designer – Conducting a short conversation to gather insights. • Coaching methodology - Helping others by asking the right questions • Reflection & Application – Translating learnings into your own field. • Skill Gap Analysis – Identifying what you need to develop to work in circular design.
Learning outcomes	• Analyze how different design industries define and implement sustainability. • Identify what skills are needed to transition into circularity. • Understand real-world challenges and successes from designers applying circularity..
Possible assignments	• Material science research • Circular Design Interview and Reflection

4.3	**Circularity in My Field of Design**
Why?	• To enable designers to recognize the specific challenges and opportunities for circularity in their own design fields and to position themselves as circular design practitioners.
What?	• Industry-Specific Needs & Challenges – Why some fields struggle more than others to transition from linear to circular. • Materials, Systems & Processes – What defines circularity in your specific field. • Future Foresight: The Next 10 Years in Circularity – Predicting how industries will evolve.
Examples:	Individual research
How?	• Stakeholder Mapping – Identifying key players and decision-makers in a specific industry. • Future foresight • Industry Benchmarking – Comparing different sectors to find circularity gaps. • Industry Research – Conducting secondary research on circularity in your field.
Learning outcomes	• Recognize the challenges and potential of circularity in one's own design field. • Position oneself as a circular designer within their field. • Develop a future foresight perspective on circularity in one's practice. • Conduct industry-specific research on circular opportunities.
Possible assignements	• Circular Design Vision for Your Field

Module 5

Name	Design Process

This module guides designers in integrating their learning into a unique design process, strategy, and career path that aligns with their individual strengths and values, all within the context of sustainability and circularity. It synthesizes the principles of circularity, sustainability, and systems thinking introduced in previous modules, equipping designers with a transformative approach. Designers are challenged to move beyond human-centered design and adopt a planet-centered perspective, fostering inclusive processes that create sustainable outcomes within planetary boundaries.

The module also provides the knowledge and skills necessary to apply circular economy and sustainability principles in practice. Designers will learn to develop and implement systemic solutions that address complex global challenges.

Courses:

Title	ETCS	Contact	Independent
5.1..Defining Your Circular Design Approach	1		
5.2.Selecting & Adapting Design Methods	1		
5.3. Presenting & Refining Your Circular Design Process Model	1		

Evalulation	• Reflection • General visual roadmap of your own design process approach • Service blueprint or roadmap of your design process • Final presentation: My circular design process model
Literature	• "The Five Dysfunctions of a Team: A Leadership Fable" Patrick M. Lencioni • "Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist" Kate Raworth • "A Collection of Systemic Design Strategies" The Circular Design Team (Online Toolkit) • "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers" by Alexander Osterwalder & Yves Pigneur • "Design for Sustainable Change: How design and designers can drive the sustainability agenda" Chick, A. & Micklethwaite • "Designs for the Pluriverse. Radical Interdependence, Autonomy, and the Making of Worlds." Escobar, A. • "Disruptive Design Method Handbook" Leyla Acaroglu, 2017 • “Frame Innovation” Kees Dorst

5.1	Defining Your Circular Design Approach
Why?	• To help designers understand various circular design process models and identify how these models can align with their personal values and skills, leading to the development of a draft framework for their own circular design process.
What?	• Existing Design Process Models: Comparing traditional and circular design processes. • Personal Design Philosophy: Aligning sustainability with your own practice. • Systems Thinking in Individual Practice: Integrating business, people, and environmental perspectives.
Examples:	• Different Approaches to Circularity: How various designers structure their process. • The Intersection of Materials, Ethics & Innovation: How values shape process choices. • Case Studies of Circular Design Strategies: Designers who created their own methods.
How?	• Self-Reflection & Skill Mapping: Understanding your design strengths and gaps. • Comparative Analysis of Process Models: Evaluating different approaches to find what works for you. • Drafting a Personal Circular Design Framework: Structuring a design strategy unique to your practice.
Learning outcomes	• Understand different design process models and how they apply to circularity. • Identify which aspects of circularity align with your values and skills. • Develop a draft framework for your own circular design process.
Possible assignements	• Personal Circular Design Framework

5.2	Selecting & Adapting Design Methods
Why?	• To enable designers to understand how different design methods fit into circular design, and to choose and adapt these methods to create a structured workflow that supports their values and design process.
What?	• How to Present Your Design Process: Structuring and explaining complex ideas.

	● Adapting Your Process for Different Audiences: Communicating with businesses, policymakers, and users. ● Iterating & Improving Your Framework: Learning from feedback and real-world application.
Examples:	● Practicing Designers' Methodology Choices: Case studies on how different designers mix methods. ● How Service Design & Systems Thinking Overlap: Applying business and human-centered perspectives together. ● Design for Sufficiency & Post-Growth Models: Moving beyond conventional design thinking.
How?	● Service Blueprinting: Structuring your design workflow and stakeholder interactions. ● Roadmap Creation: Planning step-by-step processes for your work. ● Method Mix & Selection: Choosing tools that fit your specific practice.
Learning outcomes	● Adapt your approach based on audience and context. ● Effectively present and justify your circular design strategy. ● Iterate your design process for continuous improvement.
Possible assignements	● Circular Design Methodology Toolkit

5.3	**Presenting & Refining Your Circular Design Process Model**
Why?	• To equip designers with the skills to effectively communicate and justify their circular design strategies to diverse audiences, and to establish a process for iterative improvement of their design approach.
What?	• How to Present Your Design Process: Structuring and explaining complex ideas. • Adapting Your Process for Different Audiences: Communicating with businesses, policymakers, and users. • Iterating & Improving Your Framework: Learning from feedback and real-world application.
Examples:	• Pitching Circular Strategies to Businesses: How to justify the need for a circular approach. • Aligning Process with Business & Social Needs: Making your design methodology relevant to clients. • Iterative Design & Continuous Learning: How real-world constraints shape design practice.
How?	• Storytelling for Designers: Structuring presentations for clarity and engagement. • Feedback Loops & Iteration: Refining your process based on practical testing. • Design Process Documentation: Creating a portfolio-ready format for your methodology.
Learning outcomes	• Adapt your approach based on audience and context. • Effectively present and justify your circular design strategy. • Iterate your design process for continuous improvement.
Possible assignments	• Circular Design Process Portfolio

Assignments:

Course work assignments:

Module 1

1.1: Understanding Natural Systems, Their Interconnectedness, and Ecological Sustainability

1.1.1 Ecosystem Analysis and Material Flow Diagram

- **Description:** Select a specific ecosystem (e.g., a forest, a wetland, a coral reef) and analyze its structure and function.
- **Instructions:**

1. Choose an ecosystem and define its boundaries.
2. Identify the key components of the ecosystem (e.g., species, habitats, abiotic factors).
3. Map the flow of energy and materials within the ecosystem, including nutrient cycles, food webs, and energy transfer.
4. Create a visual representation of the material flow diagram.

- **Goals:**
  - Develop an understanding of ecosystem structure and function.
  - Apply systems thinking to analyze ecological processes.
  - Visualize material and energy flows in natural systems.

1.1.2 Comparative Analysis of Ecosystem Resilience

- **Description:** Compare the resilience of two different ecosystems in response to a specific disturbance.
- **Instructions:**

1. Select two ecosystems with contrasting characteristics (e.g., high vs. low biodiversity, simple vs. complex structure).
2. Choose a disturbance event (e.g., fire, pollution, climate change) and analyze its potential impact on each ecosystem.
3. Compare the ability of each ecosystem to resist, absorb, and recover from the disturbance.
4. Identify the factors that contribute to the resilience of each system.

- **Goals:**
  - Understand the concept of ecosystem resilience.
  - Analyze the factors that influence ecosystem stability and vulnerability.
  - Apply systems thinking to compare ecological responses to change.

1.1.3 Biomimicry Design Project

- **Description:** Identify a design challenge and develop a solution inspired by a natural system.
- **Instructions:**
  1. Choose a design problem (e.g., energy efficiency, waste reduction, sustainable materials).
  2. Research a natural system that exhibits similar functions or processes.
  3. Analyze the principles and strategies that the natural system employs.
  4. Develop a design concept that mimics the natural system's solution.
  5. Present the design concept, explaining the biomimicry principles and potential benefits.
- **Goals:**
  - Introduce the concept of biomimicry as a design approach.
  - Apply systems thinking to translate biological principles into design solutions.
  - Develop innovative and sustainable design concepts.

1.2: Analyzing the Complexities, Material Flows, and Unintended Consequences of Human-Made Systems

1.2.1 System Map of a Human-Made System

- **Description:** Create a system map of a selected human-made system to visualize its components, relationships, and dynamics.
- **Instructions:**
  1. Choose a human-made system (e.g., a supply chain, an urban transportation network, a waste management system).
  2. Identify the system's boundaries, key components, and stakeholders.
  3. Map the relationships between components, including flows of information, materials, and energy.
  4. Identify feedback loops (reinforcing and balancing) and other dynamic elements.
  5. Create a visual representation of the system map (e.g., using a software tool or by hand).
- **Goals:**
  - Develop skills in system mapping and visualization.

- Analyze the structure and dynamics of human-made systems.
- Identify key leverage points for intervention and change.

1.2.2 Case Study Analysis of Unintended Consequences

- **Description:** Analyze a case study of a human-made system where interventions led to unintended negative consequences.
- **Instructions:**
  - Select a case study (e.g., a failed urban development project, an ineffective environmental policy, a technological disruption).
  - Describe the initial problem, the intervention, and the resulting unintended consequences.
  - Analyze the systemic factors that contributed to the unintended consequences (e.g., feedback loops, time delays, lack of holistic perspective).
  - Discuss lessons learned and recommendations for avoiding similar problems in the future.
- **Goals:**
  - Understand the concept of unintended consequences in complex systems.
  - Apply systems thinking to analyze the root causes of systemic failures.
  - Develop critical thinking skills and learn from past mistakes.

1.2.3 Reflective Essay: Justifying a Systems Approach

- **Description:** Write an essay reflecting on the importance of a systems approach in design and problem-solving.
- **Instructions:**
  1. Reflect on the concepts, tools, and examples covered in the module.
  2. Discuss the limitations of linear thinking and the advantages of a systems perspective.
  3. Provide examples of design challenges that require a systems approach.
  4. Articulate a personal rationale for adopting systems thinking in their design practice.
- **Goals:**
  - Encourage critical reflection on the value of systems thinking.
  - Develop the ability to articulate and justify a systems approach.
  - Promote a deeper understanding of the interconnectedness of design and sustainability.

1.3: Evaluating the Impact of System-Level Interventions, Examining Governance, Policy, and Tools for Assessment and Adaptation

1.3.1 Life Cycle Assessment (LCA) of a Product

- **Description:** Conduct a simplified life cycle assessment (LCA) of a product to evaluate its environmental impacts.
- **Instructions:**
    1. Choose a product (e.g., a coffee cup, a t-shirt, a pen) and define the scope of the LCA.
    2. Identify the product's life cycle stages (e.g., raw material extraction, manufacturing, use, end-of-life).
    3. Gather data on the energy and material inputs and outputs for each stage.
    4. Assess the potential environmental impacts associated with each stage (e.g., carbon footprint, water use, waste generation).
    5. Analyze the results and identify opportunities for reducing the product's environmental impact.
- **Goals:**
    - Introduce the methodology of life cycle assessment.
    - Apply systems thinking to evaluate the environmental impacts of products.
    - Develop skills in data collection, analysis, and interpretation.

1.3.2 Policy Analysis and System Intervention

- **Description:** Analyze a policy or intervention aimed at addressing a system-level problem and evaluate its effectiveness.
- **Instructions:**
    1. Choose a policy or intervention (e.g., a carbon tax, a recycling program, an urban planning initiative).
    2. Describe the policy's goals, mechanisms, and intended outcomes.
    3. Analyze its impact on the relevant system, considering both intended and unintended effects.
    4. Evaluate the policy's effectiveness in achieving its goals and identify any shortcomings or areas for improvement.
    5. Discuss alternative policy approaches or system interventions.
- **Goals:**
    - Understand the role of policy and governance in shaping systems.
    - Apply systems thinking to analyze the impact of system-level interventions.
    - Develop skills in policy analysis and evaluation.

1.3.3 Sustainability Metrics and Reporting

- **Description:** Research and analyze different sustainability metrics and reporting frameworks.
- **Instructions:**
    1. Research various sustainability metrics (e.g., ecological footprint, carbon footprint, water footprint, Sustainable Development Goals).
    2. Explore different reporting frameworks used by organizations to measure and communicate their sustainability performance.
    3. Compare the strengths and weaknesses of different metrics and frameworks.
    4. Discuss the role of sustainability reporting in promoting transparency, accountability, and systemic change.
- **Goals:**
    - Introduce key concepts and tools for measuring sustainability.
    - Understand the importance of sustainability reporting.
    - Develop critical thinking skills in evaluating different metrics and frameworks.

MODULE 2

2.1: Understanding Human Behavior & Decision-Making

2.1.1 User Behavior Mapping

Description:

This assignment introduces you to user behavior mapping, a method used to create a visual representation of a specific user behavior related to a design challenge. You will map out the factors that influence the behavior, including user needs, motivations, and environmental factors. This assignment will help you develop skills in observation, data collection, analysis, and synthesis, which are crucial for designing effective and user-centered solutions.

Instructions:

1. **Choose a Context:** Select a public space or system to observe. This could be a physical space (e.g., a park, a library, a transportation hub) or a digital environment (e.g., a website, a mobile app). The context should be one where people interact with the environment or system in a way that is relevant to a design challenge or question. Consider the goals of the system and how people do or do not achieve them.
2. **Define a Research Question:** Develop a focused research question that will guide your behavior mapping. For example:
    - How do users navigate the library to find resources?
    - What are the common patterns of interaction with the self-checkout system at a grocery store?
    - How do visitors interact with the park's features (e.g., benches, pathways, playground)?
    - How do people use a website to complete a specific task?
3. **Develop a Behavior Mapping Plan:**
    - **Sampling Strategy:** Determine how you will select participants or observation times. Will you observe everyone, or a specific subset? Will you observe at certain times of day?
    - **Observation Protocol:** Create a structured observation protocol. This is a detailed plan for what you will observe and how you will record it. Your protocol should include:
        - A map or diagram of the space.
        - Categories of behavior to record (e.g., activities, movement, interactions, time spent).
        - A system for recording data (e.g., checklists, coding schemes, field notes). You might use a paper system, a tablet, or a specialized app.
        - Consider how you will handle ethical considerations.

    - **Data Recording:** Conduct your observations, being as unobtrusive as possible. Record your observations accurately and in detail, following your observation protocol.
4. **Analyze and Synthesize Your Findings:**
    - Organize your data (e.g., create tables, charts, or diagrams) to identify patterns of behavior.
    - Look for trends, correlations, and outliers.
    - Consider the "why" behind the behaviors you observed. What user needs, motivations, or frustrations might explain these patterns? Create a visual map illustrating the factors that influence the behavior.
5. **Present Your Findings and Recommendations:**
    - Prepare a report or presentation that summarizes your behavior mapping process, key findings, and insights.
    - Use visuals (e.g., maps, photos, charts) to communicate your findings effectively.
    - Based on your findings, identify design opportunities or recommendations for improving the user experience. How might the design be changed to better support the observed behaviors, needs, and goals?

Goals:

- Develop skills in user-centered observation and data collection techniques.
- Learn to apply behavior mapping to understand how people interact with environments and systems.
- Analyze and synthesize observational data to identify patterns of behavior and user needs.
- Generate design insights and recommendations based on behavioral evidence.
- Communicate research findings effectively through written and visual means.

2.1.2 Application of COM-B in a Design Challenge

Description:

A design project where to apply the COM-B model, to makw informed design decisions and predict how users will interact with the design.

Instructions:

1. Choose a Design Challenge: Select a real-world design challenge. This could be improving recycling rates in a community, increasing the use of public transportation, or promoting sustainable consumption habits.
2. Identify Target Behavior: Define the specific user behavior that your design aims to influence (e.g., increasing recycling frequency, encouraging bus ridership, reducing consumption of single-use plastics).
3. Apply the COM-B Model: Analyze the target behavior using the COM-B model.

    - Identify the Capability, Opportunity, and Motivation factors that influence the behavior.
    - Consider what might be limiting or enhancing each of these factors.
4. Develop Design Interventions: Based on your COM-B analysis, develop design interventions to address the identified barriers and enhance enablers.
    - Propose specific design features, strategies, or solutions.
    - Explain how your interventions target Capability, Opportunity, and/or Motivation.
5. Predict User Interaction: Explain how users are likely to interact with your design interventions.
    - Describe the anticipated behavioral outcomes.
    - Justify your predictions with reference to the COM-B model.
6. Document Your Process: Document your design process, including:
    - The chosen design challenge and target behavior.
    - Your COM-B analysis.
    - The design interventions you developed.
    - Your predictions of user interaction.
    - A reflection on how the COM-B model informed your design decisions.
7. Present your final design project in a format appropriate to the assignment (e.g., written report, presentation, prototype).

Goals:

- Apply the COM-B model to analyze a real-world design challenge.
- Develop design interventions that target specific behavioral factors.
- Predict how users will interact with a design based on behavioral theory
- Use diagrams, charts, or other visual aids to illustrate your COM-B analysis and design interventions.
- Document and communicate the design process effectively.
- Reflect on the role of behavioral science in design.

2.1.1 Behavioral Audit and Redesign of a Design Project

Description: Analyze a past design project through a behavioral science lens and propose redesigns to enhance user engagement or promote desired behaviors.

Instructions:

1. Select a design project from your portfolio (e.g., a website, an app, a product, a service).
2. Conduct a behavioral audit of the design:
    - Identify the key user behaviors the design aims to influence.

- Analyze these behaviors using the COM-B model (Capability, Opportunity, Motivation).
- Evaluate how well the current design addresses each COM-B component.
- Identify any cognitive biases, social norms, or cultural factors that may be influencing user behavior in relation to the design.

3. Based on your analysis, propose specific redesigns to improve the design's effectiveness in influencing user behavior.
    - Justify your redesign choices, explaining how they address the COM-B components and leverage relevant behavioral science principles (e.g., nudging, gamification).
    - Consider ethical implications of your redesigns, ensuring they promote user autonomy and avoid manipulation.
4. Define How you would measure the effectiveness of your proposed redesigns (e.g., key performance indicators, user testing methods).

Goals:

- Apply behavioral science principles to analyze and improve existing designs.
- Enhance user engagement and promote desired behaviors in ethical ways.
- Develop skills in evaluating design effectiveness.

2.2: User Research & Influence Strategies

- **User Research Plan:** Develop a detailed plan for conducting user research for a design project. This plan should outline the research methods, target users, and data analysis techniques.

- **Design of a Persuasive Intervention:** Students will design a product, service, or system that incorporates influence strategies (like nudging or gamification) in an ethical and responsible manner.

2.3: Designing for Long-Term Impact & Social Well-being

- **Analysis of the Social Impact of an Eco-Crisis:** Analyze how a specific environmental crisis affects different social groups, considering the diverse impacts and vulnerabilities.
-
- **Design for Long-Term Impact and Social Well-being:** Develop a design project that aims to promote long-term positive behavior change and enhance social well-being.

MODULE 3

3.1 Circular Business Model Transformation Plan

Description: Develop a comprehensive plan for transforming a linear business into a circular one.

Instructions:

1. Select a real-world, linear business.
2. Analyze its current business model using the business model canvas.
3. Identify the main barriers to circularity for this business.
4. Apply the circular business model canvas to map out potential circular strategies.
5. Develop a detailed transformation plan, including:
    - Specific circular business models to implement (e.g., product-as-a-service, closed-loop supply chains).
    - Key changes in value creation, resource management, and customer relationships.
        - A strategy for addressing the identified barriers.
        - Metrics to measure the success of the transformation (linking to ESG or other impact measurement tools).
6. Present your plan in a structured report, justifying your choices and considering the business context.

Goals:

- Apply circular business model frameworks to real-world businesses.
- Develop practical strategies for transitioning from linear to circular models.
- Integrate sustainability considerations into business planning.

3.2 Future Business Model Scenario

Description: Explore potential future scenarios for a specific industry and design a business model that is resilient and sustainable in that future.

Instructions:

- Choose a specific industry (e.g., fashion, food, mobility).
- Conduct future foresight research to identify key trends, uncertainties, and potential disruptions that could affect the industry in the next 10-20 years (e.g., climate change, technological advancements, social shifts).
- Develop 2-3 contrasting future scenarios for the industry, describing how these factors might play out.

- For each scenario, design a business model that is both viable and sustainable.
    - Consider how the business creates, delivers, and captures value in the specific future scenario.
    - Address challenges related to resource scarcity, environmental impact, and social equity.
    - Incorporate principles of resilience, circularity, and sufficiency in your design.
- Present your future business models, explaining how they are adapted to the different scenarios and why they are more sustainable than current models.

Goals:

- Apply future foresight techniques to business model innovation.
- Design for uncertainty and long-term sustainability.
- Develop innovative business models that address future challenges.

3.3. Impact Measurement and Reporting Proposal

Description: Create a proposal for how a company can measure and report its social and environmental impact.

Instructions:

1. Select a publicly traded company.
2. Research the company's current sustainability reporting practices (if any).
3. Identify relevant stakeholders and their information needs.
4. Develop a proposal for how the company can improve its impact measurement and reporting, including:
    - Key performance indicators (KPIs) to track environmental and social impact.
    - Reporting frameworks to use (e.g., GRI, SASB, TCFD).
    - Methods for data collection, analysis, and communication.
    - How the company can ensure transparency, accountability, and credibility in its reporting.
5. Justify your recommendations, explaining how they align with best practices and stakeholder expectations.
6. Discuss how the company can use impact measurement and reporting to drive positive change and enhance its long-term sustainability.

Goals:

- Understand how businesses measure and report their impact.
- Apply impact measurement tools and frameworks.
- Develop strategies for promoting corporate accountability and sustainability.

MODULE 4

4.1. Circular Design Field Analysis

- **Description:** Analyze the current state of circular design in your specific design field and identify opportunities for further integration.
- **Instructions:**
    - Choose your specific design field (e.g., fashion design, product design, graphic design, architecture).
    - Conduct research to understand how circular design principles are currently being applied (or not applied) in your field.
    - Identify the key drivers, barriers, and stakeholders influencing the adoption of circular design in your field.
    - Analyze case studies of successful and unsuccessful attempts to implement circular design in your field.
    - Map the circular gaps and opportunities in your field.
    - Present your findings in a structured report or presentation, including recommendations for how designers in your field can more effectively adopt circular practices.
- **Goals:**
    - Develop a deep understanding of the current state of circular design in a specific design field.
    - Identify opportunities and challenges for implementing circular design in practice.
    - Apply research and analytical skills to a specific design context.

4.2. Circular Design Interview and Reflection

- **Description:** Interview a designer who is actively working with circular design principles and reflect on the insights gained from the interview.
- **Instructions:**
    - Identify and interview a designer who is incorporating circular design principles into their work.
    - Develop a set of interview questions focused on understanding:
        - The designer's journey towards circular design.
        - The specific circular design strategies and methods they use.
        - The challenges and opportunities they have encountered.
        - The impact of their circular design work.
        - The skills and knowledge they believe are essential for circular design.
    - Conduct the interview and document the designer's responses.
    - Reflect on the interview findings and their relevance to your own design practice.
    - Write a reflection paper that summarizes the key insights from the interview and discusses how they can be applied to your own work or field.

- **Goals:**
    - Gain practical insights into how circular design is applied in real-world contexts.
    - Develop interviewing and communication skills.
    - Reflect on and apply new knowledge to personal design practice.

4.3. Circular Design Vision for Your Field

- **Description:** Develop a vision for the future of circular design in your specific design field and outline a strategy for achieving that vision.
- **Instructions:**
    - Building on your understanding of circular design principles and your analysis of your specific design field, develop a vision for how circularity could be integrated into your field in the next 10-20 years.
    - Outline the key steps, strategies, and collaborations that would be needed to achieve this vision.
    - Identify the role that you, as a designer, could play in driving this transition.
    - Consider the potential social, environmental, and economic impacts of your vision.
    - Present your vision and strategy in a compelling and persuasive manner, using visuals and storytelling as appropriate.
- **Goals:**
    - Develop a future-oriented perspective on circular design in a specific field.
    - Apply strategic thinking and visioning skills to design challenges.
    - Communicate a compelling vision for the future of design.

MODULE 5

5.1 Personal Circular Design Framework

- **Description:** Develop a comprehensive framework for your personal circular design process.
- **Instructions:**
    - Reflect on your values, skills, and experiences as a designer.
    - Analyze different design process models and identify elements that resonate with you.
    - Define the key principles and goals of your circular design approach.
    - Select appropriate methods and tools to support your process.
    - Develop a visual representation of your framework (e.g., a diagram, flowchart, or mind map).

    - Write a detailed description of your framework, explaining each stage, method, and decision-making criteria.
    - Present your framework in a clear and compelling manner.
- **Goals:**
    - Articulate your personal design philosophy and values.
    - Develop a unique and effective circular design process.
    - Integrate systems thinking, sustainability principles, and ethical considerations into your design practice.

5.2. Circular Design Methodology Toolkit

- **Description:** Create a toolkit of methods and tools that you can use in your circular design practice.
- **Instructions:**
    - Research a variety of design methods and tools relevant to circular design (e.g., life cycle assessment, stakeholder mapping, circular economy business models, etc.).
    - Evaluate the strengths and weaknesses of each method in relation to different design contexts and project goals.
    - Select a set of methods that align with your personal design framework and values.
    - Adapt or combine methods as needed to create a customized toolkit.
    - Develop guidelines for how and when to use each method in your design process.
    - Create templates, checklists, or other resources to facilitate the application of your chosen methods.
    - Present your toolkit in a practical and user-friendly format.
- **Goals:**
    - Develop expertise in a range of circular design methods and tools.
    - Curate a personalized toolkit that supports effective and efficient design practice.
    - Apply critical thinking to the selection and adaptation of design methods.

5.3. Circular Design Process Portfolio

- **Description:** Document and present your circular design process in a professional portfolio.
- **Instructions:**
    - Reflect on a past design project and analyze how you applied (or could have applied) circular design principles.

    - Document each stage of your design process, including the methods and tools you used, the decisions you made, and the rationale behind them.
    - Showcase how your personal circular design framework guided your actions and choices throughout the project.
    - Evaluate the outcomes of the project in terms of its circularity, sustainability, and social impact.
    - Identify areas for improvement in your design process and outline how you would refine your approach in future projects.
    - Present your design process portfolio in a visually appealing and well-structured format (e.g., a website, a PDF document, or a physical portfolio).
- **Goals:**
    - Articulate your design process in a clear and compelling manner.
    - Demonstrate your ability to apply circular design principles in practice.
    - Reflect on your design work and identify opportunities for growth and development.

Suggested schedule - curriculum into bites

Curriculum wall

	Part 1	Part 2	Part 3
MODULE 1 SYSTEMS	Understanding Interconnectedness	Human-Made Systems and Complexity	Measuring and Evaluating System Impact
MODULE 2 PEOPLE	Understanding Human Behavior & Decision-Making	User Research & Influence Strategies	Designing for Long-Term Impact & Social Well-being
MODULE 3 BUSINESS	Understanding Business Models & Market Forces	Circular Business Models & Systemic Challenges	The Future of Sustainable Business & Impact Measurement
MODULE 4 DESIGN FIELD	Changing Role of the Designer	Learning from Practicing Designers	Circularity in My Field of Design
MODULE 5 DESIGN PROCESS	Defining Your Circular Design Approach	Selecting & Adapting Design Methods	Presenting & Refining Your Circular Design Process Model