

ARTX-1008 Sustainable design – Spring 2024

Contact teacher:

For the whole course Tatu Marttila tatu.marttila@aalto.fi,

For sessions 1-4 Mikko Jalas mikko.jalas@aalto.fi,

For sessions 5-7 Tatu Marttila tatu.marttila@aalto.fi,

For sessions 9-13 Anubhuti Bhatnagar anubhuti.bhatnagar@aalto.fi, Mikko Jalas, and Tatu Marttila

Sessions (Mon 13:15-16 / Fri 9:15-12) and teaching locations:

- Mon 22.4. (Jeti - A208d, A Grid) – Intro to course & sustainability
- Fri 26.4. (Jeti - A208d, A Grid) – Multi-level design model: Positioning design strategies
- Mon 29.4. (Jeti - A208d, A Grid) – Tools to guide product design and certify performance
- Fri 3.5. (Jeti - A208d, A Grid) – Communicate sustainability with design
- Mon 6.5. (Maari C-D [Win] 184-186, Maarintalo) – Sustainability research: Granta Edupack & materials
- Fri 10.5. (Jeti - A208d, A Grid) – Assessing sustainability
- Mon 13.5. (Jeti - A208d, A Grid) – Redesign & communication of improvement
- Fri 17.5. (U119 / M240 / M237, Otakaari 1) – Assessment & redesign presentations
- Mon 20.5. (Jeti - A208d, A Grid) – Case work kick-off
- Fri 24.5. (Jeti - A208d, A Grid) – Case work continues
- Mon 27.5. (U119 / M240 / M237, Otakaari 1) – Interim check & tutoring sessions for groups
- Fri 31.5. (only in Zoom) – Final deliverables check-up & tutoring session
- Mon 3.6. (U119 / M240 / M134, Otakaari 1) – Final presentations
- Fri 7.5. (no class) – Finalize diary & course feedback, independent work

In-class presence or online?

Although some session activity can be organized/supported with online platforms, the course is designed for in-class presence. Possible Zoom-links will be announced on course MyCourse page.

Materials:

All materials are listed in the detailed workplan and can be found at:

<https://mycourses.aalto.fi/course/view.php?id=40056§ion=2>

Exercises:

Follow the instructions and the deadlines given at: <https://mycourses.aalto.fi/course/view.php?id=40056§ion=3>

Grading:

- independent assignments for session 2 (P/F), session 3 (P/F), session 4 (1–5), session 8 (1–5), (30% of grade evaluation),
- group work with conceptual design case (1–5) (30%),
- personal learning diary (1–5) (40%) – cover the reflection tasks listed in the detailed work plan below.

Warmly welcome to the course!

(See next two pages for session details and worktime allocation...)

Course name & code: Sustainable Design (ARTX-C1008)																
Teaching Period V (21.04.2024-07.06.2024)																
Teaching days: Mondays 13.15-16 & Fridays 9.15-12.00																
Course preparations:						LEGEND										
Week	Date	Preparations				Contact										
Wk12	22.3.	Prepare MyCourses page				Reading										
Wk15	8.4.	Email students: Welcome & 1st session readings				Exercise										
Wk 16	15.4.	Prepare intro session slides				Groupwork										
						Reflection										
Sessions:																
Week	Date	Place	Session no.	Session topic	Session activity plan	Tasks & materials	Teacher in charge	Contact hrs	Readings	Exercises	Groupwork	Reflection	Student workload			
Week 1						Reading: Allwood, J., & Cullen, J. (2010). Sustainable Materials - with Both Eyes Open (Chapters 1 and 2)			2				2			
	Mon 22.4. (13.15-16.00)	Jeti - A208d, A Grid	1	Introduction to Sustainable Design: Key concepts and concerns of sustainability. IPAT. Consumption hotspots.	9.15-10.00. The syllabus and introductions of the teachers 10.15-11.00 Mikko J alas on priority material streams and systems view on materials use 11.15-12.00 Four corners exercise: Where do you see change coming from?	Session materials: Slides, readings; Introduce also course Presemol	Mikko (Tatu, Anu)	3					3			
						Reflection 1: Where do you see change coming from – regulation, business & design, consumers & values, science & technology						3	3			
						Reading: Ceschin, F., & Gaziulusoy, I. (2016). Evolution of design for sustainability.			6				6			
						Exercise: Calculate your own carbon footprint with SITRA's lifestyle calculator				1			1			
	Fri 26.4. (9.15-12.00)	Jeti - A208d, A Grid	2	Multi-level design model: Positioning design in the field of sustainability. Strategies on different levels.	9.15-10.15 Lecture and discussion on the evolution of design for sustainability 10.30-10.50 Pick a corner/approach you are most interested in. Discuss your choice and your interest with peers groups of 3-4. Insert one slide to a googleslide-file. 11.00-12.00 We go through the slides	Google sheets about each DFS angle/level for groups to edit. A3 signs for the classroom about the angles/levels.	Mikko	3					3			
						Reflection 2: What level is most important? How are levels connected?						3	3			
						Total student workload per week							21			
Week 2						Exercise: Find labels and product standards for sustainability. Submit at MyCourses three different labels/ different type.				3			3			
	Mon 29.4.	Jeti - A208d, A Grid	3	Tools to guide product design and certify performance.	9.15-10.15 Lecture on labelling and certification schemes 10.15-10.30 Students insert their labels on a Miro board (or a personal copy of the Miro board) 10.45-12.00 View and discuss the inserted labels	Session materials: Miro board in which labels can be placed	Mikko	3					3			
						Susan Vihma's text / video material			4				4			
						Exercise: Select a product/service that communicates sustainability effectively or interestingly. Submit an image and preliminary ideas on how and what the products communicates. Use Susan Vihma's categories of semiotic meanings.				4			4			
	Fri 3.5.	Jeti - A208d, A Grid	4	Communicate sustainability with design	9.15-10.15 Lecture. Questions and comments on design semiotics (based on the video and some who have read Vihma's text) 10.30-12.00 Discuss the products students have identified	Session materials: Miro board on design semiotics	Mikko	3					3			
						Reflection 3: Think about your own product choice and those of the fellows students. What/how and how they communicate about sustainability? What is greenwashing in visual language?						4	4			
						Total student workload per week							21			
Week 3						Readings: Ashby et al (2013). Materials and Sustainable Development – a White Paper			5				5			
	Mon 6.5.	R017/ 184-186 Maari C-D (Win)	5	Sustainability research & CES Edupack & Materials	9.15-10.15 Lecture on assessing sustainability 10.30-11.30 Introduction on CES Edupack database 11.30-12.00 Introduce "Assessment & redesign" - exercise for weeks 3-4	Session materials: - Slides - CES fact-finding sheet (PDF) - Online resources, material libraries	Tatu	3					3			
						Exercise: Research your redesign topic, perform META matrix exercise				5			5			
	(Thu 9.5. Ascension Day)					Get to know the edupack database			3				3			
	Fri 10.5.	Jeti - A208d, A Grid	6	Product redesign (Tatu)	9.15-10.00 Lecture on ecodesign strategies for product life cycle extension and sustainability 10.15-11.00 Continue to discuss "Assessment & redesign" -exercise 11.15-12.00 Introduce & discuss topic selection	Session materials: - Slides - Ecodesign Strategy Wheel (PDF), META sheet (PDF) - Topics for exercise (list)	Tatu	3					3			
						Reflection 4: How comprehensive is the view CES Edupack gives on sustainability challenges.						3	3			
						Total student workload per week							22			
Week 4						Reading: Allwood & Cullen (Chapters 16 & 17)			5				5			
	Mon 13.5.	Jeti - A208d, A Grid	7	Circular economy: Strategies for life cycle extension, 4R and other strategies, end-of-life management (Mikko).		Session materials: - Slides	Tatu	3					3			
						Exercise: Continue with your redesign exercise				7			7			
						Exercise: Prepare poster presentation (before/after), upload to MyCourses				4			4			

	Fri 17.5.	Otakaari 1: U119 / M240 / M237	8	Presentation of Redesign – improvement ideas and strategies	Class divided into three (when we give the redesign exercise): We assume that each track will have 27 students. 3 min presentation, 2 min discussion. No hybrid. Those missing the class will upload a video presentation (3min). In the end and if there is time, teachers can ask what kind of themes were left uncovered.	Session materials: - Poster presentations uploaded to MyCourses. Three submission boxes, one for each track. Submission box closes on 19.5. at 0800.	Tatu Mikko Anu	3						3	
						Reflection 5: What kind of feedback did you get on your redesign presentation? Did the audience understand your idea?								3	3
							Total student workload per week						25		
Week 5						Readings: These readings are to support the groupwork. Students select one of the following Allwood book chapters 20, 21 or article on biomaterials (TBA).			5						5
	Mon 20.5.	Jeti - A208d, A Grid	9	Material futures 1 /Group work kick-off	9.15-9.45 Introduce thematic case work in groups 10.00-11.00 Present focus themes 11.15-12.00 Assign topics and groups for groupwork (20 x groups of 4 students?)	Allwood book as a basis - Industries self-initiatives (e.g. carbon neutral steel), industrial symbiosis. Introduce focus themes: Concrete, Plastic and Bio-based novel materials 3x20 min.	Tatu Mikko Anu, Invite Pirjo?	3						3	
						Groupwork: Study selected material/project & produce a concept with this material							5	5	
						Groupwork: Produce a design concept idea with selected material							5	5	
						Reading: Allwood book, chapter 23			3					3	
	Fri 24.5.	Jeti - A208d, A Grid	10	Material futures 2	9.15-10.15 Lecture and discussion on new materials 10.15-10.30 (break)	Continue from session 9. Introduce chapters 23-25. Ask students to think what are the most important drivers for their groupwork design solutions. Include a discussion on where the groups are.	Tatu Anu	3						3	
							Total student workload per week						24		
Week 6						Groupwork: Prepare short interim presentation							3	3	
	Mon 27.5.	Otakaari 1: U119 / M240 / M237	11	Design with materials	9.15-12.00 Scheduled tutoring sessions with Tatu, Mikko, Anu (7 x 15 min?)	Session materials: - Zoom link for the status check - Groups prepare a presentation (ie. few slide PPT) of the material and your concept, uploaded to MyCourses	Tatu Mikko Anu	3						3	
						Groupwork: Incorporate feedback							6	6	
						Groupwork: Finalize concept idea							6	6	
	Fri 31.5.	(online)	12	Tutoring online	Online: Final status check, instructions for course finalization for all		Tatu	2						2	
						Groupwork: Prepare poster and presentation							4	4	
							Total student workload per week						24		
Week 7															
	Mon 3.6.	Otakaari 1: U119 / M240 / M134	13	Design with materials	9.15-9.25 Introduction 9.25-10.25 Presentations (3x20min) 10.40-11.40 Presentations (3x 20min) 11.40-12.00 Course feedback discussion	Session materials: - Groups prepare a presentations, uploaded to MyCourses	Tatu Mikko Anu	3						3	
					Course feedback	During week 7, DL 9.6.2022							1	1	
	Fri 7.6.					Reflection 6: How did your group work turn out? Why? How would you improve the concept? Consider also other groups' outcomes, what was most interesting in them?							4	4	
						Finalize your learning diary: Structure your diary according to reflection questions 1–6. Try to also cover how your thinking has changed during the course when editing and finalising your reflections.							7	7	
						Time to think							10	10	
							Total student workload per week						25		
												TOTAL			
								38	33	25	29	37	162		