

# ARTX-1008 Sustainable design – Spring 2024

## Contact teacher:

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## 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) – Assess 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&section=2>

## Exercises:

Follow the instructions and the deadlines given at: <https://mycourses.aalto.fi/course/view.php?id=40056&section=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	<b>Introduction to Sustainable Design: Key concepts and concerns of sustainability. IPAT. Consumption hotspots.</b>	* The syllabus and introductions of the teachers * Mikko Jalas on sustainability models, priority material streams, systems view on materials use * Four corners exercise: Where do you see change coming from?	Session materials: - Slides, readings; Introduce also course Presemo!	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	<b>Multi-level design model: Positioning design in the field of sustainability. Strategies on different levels.</b>	* Lecture and discussion on the evolution of design for sustainability * 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.	Session materials: - Slides, reading - Google sheets about each DFS angle/level for groups to edit. - Signs for the classroom about the angles/levels.	Mikko	3					3			
						Reflection 2: What level is most important? How are levels connected?						3	3			
						<b>Total student workload per week</b>							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	<b>Tools to guide product design and certify performance.</b>	* Lecture on labelling and certification schemes * Students insert their labels on a Miro board * View and discuss the inserted labels	Session materials: - Slides - 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	<b>Communicate sustainability with design</b>	* Lecture. Questions and comments on design semiotics (based on the video and some who have read Vihma's text) * Discuss the products students have identified	Session materials: - Slides, reading/video - 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			
						<b>Total student workload per week</b>							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	<b>Sustainability research &amp; Granta Edupack &amp; Materials</b>	* Lecture on assessing sustainability * Introduction on Granta Edupack database * Introduce "Assessment & redesign" -exercise for weeks 3-4	Session materials: - Slides, reading - Granta 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	<b>Product redesign (Tatu)</b>	* Lecture on ecodesign strategies for product life cycle extension and sustainability * Continue "Assessment & redesign" -exercise * 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 Granta Edupack gives on sustainability challenges.						3	3			
						<b>Total student workload per week</b>							22			
Week 4						Reading: Allwood & Cullen (Chapters 16 & 17)			5				5			
	Mon 13.5.	Jeti - A208d, A Grid	7	<b>Circular economy: Strategies for life cycle extension, 4R and other strategies, end-of-life management</b>	* Lecture on circular economy and systemic sustainability * Continue with redesign examples	Session materials: - Slides - Redesign examples	Tatu	3					3			
						Exercise: Continue with your redesign exercise				7			7			
						Exercise: Prepare poster presentation (before/after), upload to MyCourses by Thursday midnight!				4			4			
	Fri 17.5.	Otakeaari 1: U119 / M240 / M237	8	<b>Presentation of Redesign – improvement ideas and strategies</b>	* Class divided into three (when we give the redesign exercise); Each track will have 30 students * 3 min presentation, 2 min discussion. No hybrid. Those missing the class will upload a vide presentation (3min).	Session materials: - Poster presentations uploaded to MyCourses - Students present their posters accompanied with a 3 min ptch talk	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			
						<b>Total student workload per week</b>							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	<b>Material futures 1 /Group work kick-off</b>	* Introduce thematic case work in groups *Present focus themes * Assign topics and groups for groupwork (20 x groups of 4 students?)	Session materials: - Allwood book as a basis - Industries self-initiatives (e.g. carbon neutral steel), industrial symbiosis - Introductions to focus themes: Concrete, Plastic and Bio-based novel materials 3x20 min	Tatu Anu	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	<b>Material futures 2</b>	* Lecture on material driven design for sustainability (Pirjo K.) * Lecture and discussion on policy and market drivers	Session materials: - Reading and slides on chapters 23-25	Tatu Anu Pirjo	3						3
					<b>Total student workload per week</b>								24
Week 6					Groupwork: Prepare short interim presentation							3	3
Mon 27.5.	Otakaari 1: U119 / M240 / M237	11	<b>Design with materials</b>	* Scheduled tutoring sessions with Tatu, Mikko, Anu (detailes schedule to be announced)	Session materials: - 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	<b>Tutoring online</b>	* Online: Final status check, instructions for course finalization for all		Tatu	2						2
					Groupwork: Prepare poster and presentation							4	4
					<b>Total student workload per week</b>								24
Week 7													
Mon 3.6.	Otakaari 1: U119 / M240 / M134	13	<b>Design with materials</b>	* Three groups for presenting: 13.15-13.25 Introduction 13.25-14.25 Presentations (3x20min) 14.40-15.40 Presentations (3x 20min) 15.40-16.00 Course feedback discussion	Session materials: - Groups prepare a presentations, uploaded to MyCourses	Tatu Mikko Anu	3						3
			<b>Course feedback</b>	During week 7, DL 7.6.2	Fill in the feedback form (Compulsory)							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
					<b>Total student workload per week</b>								25
													<b>TOTAL</b>
							38	33	25	29	37		162