

# Product Design 4

## *DESCRIPTION OF COURSE UNIT*

Program Studi Sarjana (S1) Desain Produk

*Bachelor of Industrial Design (BOLD)*

2018-2023



**Description of Course Unit**  
**according to the ECTS User's Guide 2015**

Course unit title	Product Design 4
Course unit code	DP184734
Type of course unit	Compulsory
Level of course unit	First cycle Bachelor
Year of study when the course unit is delivered	4 <sup>th</sup> year
Semester/trimester when the course unit is delivered	7 <sup>th</sup> semester
Number of ECTS credits allocated	11,2 ECTS Credits
Name of lecturer	Dr. Agus Windharto, DEA
Learning outcomes of the course unit	<ol style="list-style-type: none"> <li>1. Product planning- Able to formulate design concepts by identifying the source of the problem, analyzing, and synthesizing needs by considering the aesthetic, comfort and safety aspects of users in a product planning</li> <li>2. Able to determine DR&amp;O, Platforms, technical specifications and concepts in transportation design along with related design analysis and methodologies</li> <li>3. Able to propose the best solution by evaluating alternative designs, conducting tests and refining solutions to solve design problems based on user, operational, manufacturing, and production efficiency considerations.</li> <li>4. In-depth design and visualization skills 2 and 3 complemented by other design documents</li> <li>5. Good visual presentation of transportation design with complete designs in the form of scale models, portfolios, animations and working drawings</li> </ol>
Mode of delivery	face-to-face
Prerequisites and co-requisites	-
Course content	Product Design 4 - transportation design is a core course that emphasizes knowledge/insight about transportation trends/needs either now or in the future by paying attention to economic/social-cultural and regulatory aspects. The required output targets are concept generation, analysis and synthesis, producing design documents, models or prototypes, presentations and exhibitions of design project results. The scope of transportation products includes personal, public, utility/special modes of transportation based on

	<p>machines or manual (paddle) both land, water and air; interior and exterior scope. (2 or 3 wheel bicycles, 2 or 3 motorbikes, private cars, unit cars, unit boats, public transport vehicles/mass-buses, trains, electric trains, boats, planes, and the equivalent)</p> <p>1) Course contract for design and title proposal.  2) Brainstorming design themes/ideas, including; problems, objectives, targeting, design concept, idea sketches, schedule.  3) Initial data processing; survey data, existing products, previous designs, and competitor products.  4) Brief idea and needs; needs (MSCA, psychographics), ideation (mind map, image board, objective tree).  5) Preliminary design; exploration of idea sketches and alternative designs.  6) Analysis of activities, components, dimensions.  7) Analysis of design results; configuration (engineering package, lopas), ergonomics (posture, vision, accessibility), shape (normative, analogy/character), cross-section, color, technical aspects.  8) Design development; material &amp; structure, joint &amp; mechanism, detail &amp; part design, assembly &amp; sub-assembly, color scheme &amp; brand identity.  9) Design program/criteria.  10) Production cost.  11) Product documentation; shop drawing, 3D model &amp; rendering, final report.  12) Model/prototype.</p>
Recommended or required reading and other learning resources/tools	<ul style="list-style-type: none"> <li>• Clifford Fiore (2003), "Lean strategies for product development", ASQ Quality Press, Milwaukee, Wisconsin.</li> <li>• Leon G. Schiffman, Leslie Lazar Kanuk (2007), "Consumer Behaviour", Ninth Edition, Prentice Hall, Pearson Education, Inc, New Jersey.</li> <li>• Nikolaos Gkikas (2013), "Automotive Ergonomics-Driver Vehicle Interaction", CRC Press, Taylor &amp; Francis Group, 6000 Broken Sound Parkway, NW Suite 300, Boca Raton, London.</li> <li>• Rhenald Kasali (2003), "Membidik Pasar Indonesia; Segmentasi, Targeting dan Positioning", PT. Gramedia Pustaka Utama, Jakarta.</li> <li>• Stuart Macey, Geoff Wardley (2008), "H Point-The Fundamental of Car Design &amp; Packaging", Design Studio Press, Higuera Street, Culver City, California</li> </ul>
Planned learning activities and teaching methods	Case Method; Team Based Learning
Language of instruction	Indonesia
Assessment methods and criteria	Assignment, Project, Midterm Evaluation and Final Evaluation

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Course Details

DP184734

Desain Produk 4  
Product Design 4  
7 credits  
Coordinator: Dr. Agus Windharto, DEA

Course Form :  
Course Type : Tidak Ada  
Minimum Passing Grade : C

Course Description

MK Desain Produk 4 bertema desain produk transportasi adalah mata kuliah inti yang menekankan pengetahuan/wawasan tentang trend/kebutuhan transportasi baik sekarang atau masa datang dengan memperhatikan aspek ekonomi/sosial-budaya dan regulasi. Target luaran yang disyaratkan adalah pembuatan konsep, analisis dan sintesis, menghasilkan dokumen desain, model atau prototip, presentasi dan pameran hasil proyek desain. Ruang lingkup produk transportasi meliputi moda transportasi personal, publik, utilitas/khusus yang berbasis mesin atau manual (kayuh) baik darat, air dan udara; lingkup interior maupun eksterior. (sepeda roda 2 atau 3, sepeda motor unit 2 atau 3, mobil pribadi, mobil unit, kapal unit, kendaraan transportasi umum/massal-bus, kereta api, kereta listrik, kapal, pesawat, dan seterusnya)

Product Design 4 - transportation design is a core course that emphasizes knowledge/insight about transportation trends/needs either now or in the future by paying attention to economic/social-cultural and regulatory aspects. The required output targets are concept generation, analysis and synthesis, producing design documents, models or prototypes, presentations and exhibitions of design project results. The scope of transportation products includes personal, public, utility/special modes of transportation based on machines or manual (paddle) both land, water and air; interior and exterior scope. (2 or 3 wheel bicycles, 2 or 3 motorbikes, private cars, unit cars, unit boats, public transport vehicles/mass-buses, trains, electric trains, boats, planes, and the equivalent)

LO CLO Assessment & Evaluation Plan Lesson Plan

Learning Outcomes Charged by the Course

Mohon untuk mengecek kurikulum yang lain juga pada pilihan di bawah ini (lalu klik **Tampilkan**). Kemudian mohon pastikan centang CPL telah sesuai dengan yang dibutuhkan oleh CPMK.

Curriculum: Kurikulum 2018 S-1 Desain Produk Show

No.	Description
<input type="checkbox"/>	1. Mampu menyusun konsep desain dengan mengidentifikasi sumber masalah, menganalisis, dan mensintesis kebutuhan dengan mempertimbangkan aspek estetika, kenyamanan dan keselamatan pengguna pada suatu produk <i>Able to develop design concepts by identifying problem sources, analyzing, and synthesizing needs by considering aesthetic, comfort and user safety aspects of a product</i>
<input checked="" type="checkbox"/>	2. Mampu merancang sistem produk dan benda produk berdasarkan penguasaan metoda desain, cara produksi dan sistem distribusi, untuk menghasilkan produk yang dapat dipertanggungjawabkan terhadap kaidah desain, dampak pada lingkungan hidup, dan isu-isu sosial budaya <i>Able to design product systems and product objects based on mastery of design methods, production methods and distribution systems, to produce products that can be accounted for by design principles, impacts on the environment, and socio-cultural issues</i>
<input checked="" type="checkbox"/>	3. Mampu membuat model untuk menyelesaikan masalah desain yang kompleks secara kreatif berdasarkan prinsip-prinsip desain dan rekayasa, dengan mempertimbangkan faktor ekonomi, keamanan, keselamatan, dan kelestarian lingkungan <i>Able to create models to solve complex design problems creatively based on design and engineering principles, taking into account economic, security, safety, and environmental sustainability factors</i>
<input type="checkbox"/>	4. Melakukan kolaborasi dalam bidang kerja yang multi disiplin dengan memanfaatkan pengetahuan dan kemampuan desainnya <i>Collaborating in multi-disciplinary work areas by utilizing design knowledge and skills</i>
<input checked="" type="checkbox"/>	5. Memahami konsep teoretis desain: 1. fungsi, 2. estetika, 3. ekonomi, 4. sosial dan, 5. teknologi secara umum <i>Understand the theoretical concepts of design: 1. function, 2. aesthetics, 3. economy, 4. social and, 5. technology in general</i>
<input type="checkbox"/>	6. Keterampilan presentasi lisan, tulisan dan multimedia dan teknologi presentasi secara umum <i>Oral, written and multimedia presentation skills and general presentation technology</i>
<input checked="" type="checkbox"/>	7. Keterampilan rekabentuk dan visualisasi 2 dan 3 matra secara mendalam <i>Design skills, 2 and 3 dimension visualization in depth</i>
<input type="checkbox"/>	8. Prinsip dan metodologi desain secara mendalam <i>Design principles and methodologies</i>
<input type="checkbox"/>	9. Konsep user centered design secara mendalam <i>The concept of user centered design in depth</i>
<input type="checkbox"/>	10. Sejarah dan perkembangan desain produk secara mendalam <i>The history and development of product design in depth</i>
<input type="checkbox"/>	11. Wawasan budaya dan perkembangan tren secara mendalam <i>Insight into culture and trend developments in depth</i>
<input type="checkbox"/>	12. Prinsip dan isu terkini dalam teknologi manufaktur secara umum <i>Current principles and issues in manufacturing technology in general</i>
<input type="checkbox"/>	13. Bisnis dan pemasaran, kewirausahaan, kode etik dan HAKI (Hak atas Kekayaan Intelektual) secara umum <i>Business and marketing, entrepreneurship, code of ethics and IPR (Intellectual Property Rights) in general</i>
<input type="checkbox"/>	14. Konsep dan prinsip pelestarian lingkungan secara umum <i>Environmental conservation concepts and principles in general</i>



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## Course Details

DP184734

Desain Produk 4

Product Design 4

7 credits

Coordinator: Dr. Agus Windharto, DEA

Course Form :  
Course Type : Tidak Ada  
Minimum Passing Grade : C

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LO CLO Assessment &amp; Evaluation Plan Lesson Plan

## Course Learning Outcomes

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Curriculum: Kurikulum 2018 S-1 Desain Produk Show

Code	Description of CLO	Mapping of CLO to LO				Weight of CLO
		LO 2	LO 3	LO 5	LO 7	
CLO-1	Product planning- Mampu menyusun konsep desain dengan mengidentifikasi sumber masalah, menganalisis, dan mensintesis kebutuhan dengan mempertimbangkan aspek estetika, kenyamanan dan keselamatan pengguna pada suatu produk. <i>Product planning- Able to formulate design concepts by identifying the source of the problem, analyzing, and synthesizing needs by considering the aesthetic, comfort and safety aspects of users in a product planning</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%
CLO-2	Mampu menentukan DR&O, Platform, spesifikasi teknis dan Konsep pada desain transportasi beserta analisis dan metodologi desain terkait <i>Able to determine DR&amp;O, Platforms, technical specifications and concepts in transportation design along with related design analysis and methodologies</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10%
CLO-3	Mampu mengusulkan solusi terbaik dengan mengevaluasi alternatif-desain, melakukan tes dan menyempurnakan solusi untuk menyelesaikan masalah desain berdasarkan pertimbangan user, operasional, manufaktur, dan efisiensi produksi. <i>Able to propose the best solution by evaluating alternative designs, conducting tests and refining solutions to solve design problems based on user, operational, manufacturing, and production efficiency considerations.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%
CLO-4	Ketrampilan rekabentuk dan visualisasi 2 dan 3 secara mendalam dilengkapi dokumen desain lainnya <i>In-depth design and visualization skills 2 and 3 complemented by other design documents</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10%
CLO-5	Presentasi visual desain transportasi secara baik dengan kelengkapan desain berupa model berskala, portfolio, animasi dan gambar kerja <i>Good visual presentation of transportation design with complete designs in the form of scale models, portfolios, animations and working drawings</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	60%
Total Weight		11%	22%	44%	22%	100%



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Desain Produk 4

Product Design 4

7 credits

Coordinator: Dr. Agus Windharto, DEA

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Tidak Ada

Minimum Passing Grade

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C

## Course Description

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LO CLO Assessment & Evaluation Plan Lesson Plan

## Assessment &amp; Evaluation Plan

No.	Evaluation Plan	CLO-1	CLO-2	CLO-3	CLO-4	CLO-5	Total Weight
1	Product Planning Product Planning Studi Kasus   Case Method	5%	0%	0%	0%	0%	5%
2	DR&O DR&O Studi Kasus   Case Method	0%	5%	0%	0%	0%	5%
3	Platform Analysis Platform Analysis Hasil proyek   Team-based Project	0%	0%	3%	1%	0%	4%
4	Portfolio & Presentasi Desain Portfolio & Presentation Design Hasil proyek   Team-based Project	5%	5%	7%	5%	10%	32%
5	Sketsa dan Preliminary Design Sketch dan Preliminary Design Hasil proyek   Team-based Project	0%	0%	0%	1%	5%	6%
6	3d visual & Animation 3d visual & Animation Hasil proyek   Team-based Project	0%	0%	0%	1%	10%	11%
7	Gambar teknik Technical Drawing Hasil proyek   Team-based Project	0%	0%	0%	1%	10%	11%
8	Model Berskala/ 3d model Model Making Hasil proyek   Team-based Project	0%	0%	0%	0%	10%	10%
9	Laporan & Evaluasi Desain Design Report & Evaluation Hasil proyek   Team-based Project	0%	0%	0%	1%	15%	16%
TOTAL		10%	10%	10%	10%	60%	100%
Target		10%	10%	10%	10%	60%	100%

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## Course Details

DP184734

Desain Produk 4

Product Design 4

7 credits

Coordinator: Dr. Agus Windharto, DEA

Course Form

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Course Type

: Tidak Ada

Minimum Passing Grade

: C

































## Course Description

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LO CLO Assessment &amp; Evaluation Plan Lesson Plan

## Lesson Plan

Weeknum	Course Material	Learning Method	
1	Tema perancangan, Empatized Empatized	Case method	 
2	Product Planning Product Planning	Case method	 
3	User Insight & Activity User Insight & Activity	Case method	 
4	Design Requirements & Objectives Design Requirements & Objectives	Case method	 
5	Technical Aspect analysis Technical Aspect analysis	Case method	 
6	Passanger Package & Engineering Package Passanger Package & Engineering Package	Case method	 
7	Platform Analisis Platform Analisis	Case method	 
8	Platform & Technical Spesification Platform & Technical Spesification	Case method	 
9	Conceptual Design & Ideation Conceptual Design & Ideation	Team-based project	 
10	Preliminary Design Preliminary Design	Team-based project	 
11	Forming Development & Sketch Ideation Forming Development & Sketch Ideation	Team-based project	 
12	Detailing Engineering Design & Analysis Detailing Engineering Design & Analysis	Case method	 
13	Alternative Design Alternative Design	Team-based project	 
14	visualization design & Presentation visualization design & Presentation	Team-based project	 
15	Model Making Model Making	Team-based project	 
16	Dokumen Design & Presentasi Design Documents & Presentation	Team-based project	 
	<div><div>Bahasa Indonesia</div><div>English</div></div>	<div>Choose method</div>	