

# Product Design 2

## *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 2
Course unit code	DP184515
Type of course unit	Compulsory
Level of course unit	First cycle Bachelor
Year of study when the course unit is delivered	3 <sup>rd</sup> year
Semester/trimester when the course unit is delivered	5 <sup>th</sup> semester
Number of ECTS credits allocated	9,6 ECTS Credits
Name of lecturer	Andhika Estiyono, S.T., M.T.
Learning outcomes of the course unit	<p>1) Students can master the stages of the design process, including:</p> <ul style="list-style-type: none"> <li>• Detailed definition of product needs</li> <li>• Conducting research to gather information to derive concepts</li> <li>• Developing and presenting concepts</li> <li>• Iterating - applying concepts in the design cycle and making improvements until finding the final product finalist</li> <li>• Manufacturing production</li> </ul> <p>2) Students can sketch product concepts, create design alternatives, and develop them.</p> <p>3) Students can review previously made alternatives and assess them based on design criteria.</p> <p>4) Students can create design specifications, simulate forms in 3DCad, and plan the initial stage of brand strategy (packaging, logo, and product brand).</p> <p>5) Students materialize design alternatives in physical form (study model) and develop them with evaluations of form, ergonomics, technical aspects, and other design factors.</p> <p>6) Students create further prototypes with full scale, functionality, good quality, and representativeness.</p> <p>7) Students complete communicative, coherent, and well-organized presentation tools and product documents</p>
Mode of delivery	face-to-face
Prerequisites and co-requisites	-

Course content	<p>This course introduces mass production after limited production from Product Design 1, covering standardized products that are capable of assembly.</p> <ol style="list-style-type: none"> <li>1) Insight into the design process of various products with their problem cases.</li> <li>2) In-depth examination, investigation, and information search for product needs with problem framing, creative proposal, and solutions that have been attempted.</li> <li>3) Study and review of existing products.</li> <li>4) Design thinking approach to defining, experimenting, solving, and applying design needs.</li> <li>5) Decomposition of design factors of case products to achieve aesthetic and functional product appeal.</li> <li>6) Ideation with alternative sketches.</li> <li>7) Technical aspects of fabrication, manufacturing through 3D cad simulation to determine the relationships and integration between components.</li> <li>8) Evaluation of design alternatives with predetermined criteria from quantitative/scoring and qualitative methods (early).</li> <li>9) Material review of presentation techniques.</li> </ol>
Recommended or required reading and other learning resources/tools	<ul style="list-style-type: none"> <li>• Baumann, K., &amp; Thomas, B. (2002). User interface design of electronic appliances. CRC Press.</li> <li>• Boothroyd, G., Dewhurst, P., &amp; Knight, W. A. (1994). Product Design for Manufacture and Assembly, revised and expanded. CRC press.</li> <li>• Cross, N., &amp; Roy, R. (1989). Engineering design methods (Vol. 4). New York: Wiley.</li> <li>• Parsons, T. (2009). Thinking: Objects: Contemporary approaches to product design (Vol. 18). AVA publishing.</li> <li>• Treitz, M. (2006). Production process design using multi-criteria analysis.</li> </ul>
Planned learning activities and teaching methods	Discovery Learning; Project Based Learning; Case Method
Language of instruction	Indonesia
Assessment methods and criteria	Assignment, Project, Midterm Evaluation and Final Evaluation

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Eri Naharani Ustazah  
Dosen S1 Desain Produk

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Course Details

DP184515

Desain Produk 2

Product Design 2

6 credits

Coordinator: Andhika Estiyono, S.T., M.T.

Course Form

Course Type

Minimum Passing Grade

:

:

:

: Tidak Ada

: C

Course Description

Mata kuliah yang memperkenalkan tentang produksi massal (mass production) setelah produksi secara terbatas dari Desain Produk 1, meliputi produk yang terstandarisasi dan mampu di-assemble.

This course introduces mass production after limited production from Product Design 1, covering standardized products that can be assembled.

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 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 checked="" 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 checked="" type="checkbox"/>	9. Konsep user centered design secara mendalam <i>The concept of user centered design in depth</i>
<input checked="" type="checkbox"/>	10. Sejarah dan perkembangan desain produk secara mendalam <i>The history and development of product design in depth</i>
<input checked="" type="checkbox"/>	11. Wawasan budaya dan perkembangan tren secara mendalam <i>Insight into culture and trend developments in depth</i>
<input checked="" 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 checked="" type="checkbox"/>	14. Konsep dan prinsip pelestarian lingkungan secara umum <i>Environmental conservation concepts and principles in general</i>

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ADVANCING HUMANITY

ITS  
Institut Teknologi Sepuluh Nopember

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Hotline Call official : +62315931147 email : despro@its.ac.id

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## Course Details

## DP184515

Desain Produk 2

Product Design 2

6 credits

Coordinator: Andhika Estiyono, S.T., M.T.

Course Form

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Course Type

: Tidak Ada

Minimum Passing Grade

: C

## Course Description

Mata kuliah yang memperkenalkan tentang produksi massal (mass production) setelah produksi secara terbatas dari Desain Produk 1, meliputi produk yang terstandardisasi dan mampu di-assemble.

*This course introduces mass production after limited production from Product Design 1, covering standardized products that can be assembled.*

LO [CLO](#) Assessment & Evaluation Plan Lesson Plan

## Course Learning Outcomes

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Curriculum: Kurikulum 2018 5-1 Desain Produk

Show

Code	Description of CLO	Mapping of CLO to LO										Weight of CLO
		LO 3	LO 5	LO 6	LO 7	LO 9	LO 10	LO 11	LO 12	LO 14		
CLO-1	Mahasiswa mampu menguasai tahap-tahap proses desain diantaranya: Detail definisi kebutuhan produk; Melakukan riset untuk mendapatkan informasi untuk menurunkan konsep; Mampu mengembangkan dan menampilkan konsep; Melakukan iterasi – menerapkan konsep pada aktifitas siklus desain dan melakukan perbaikan hingga menemukan finalis produk yang akan dibuat; dan Melakukan produksi secara manufaktur  <i>Students are able to master the stages of the design process including: Detailed product requirements definition; Conduct research to obtain information to derive concepts; Able to develop and display concepts; Performing iterations - applying concepts to design cycle activities and making improvements to find the final product to be made; and Doing production in manufacturing</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10%	
CLO-2	Mahasiswa mampu mensketsa konsep produk, membuat alternatif desain, dan mengembangkannya  <i>Students are able to sketch product concepts, create alternative designs, and develop them</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15%	
CLO-3	Mahasiswa mampu meninjau kembali alternatif yang telah dibuat dan melakukan penilaian berdasarkan kriteria desain  <i>Students are able to review alternatives that have been made and make assessments based on design criteria</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10%	
CLO-4	Mahasiswa mampu membuat spesifikasi desain, mensimulasi bentuk dalam 3DCad, dan merencanakan brand strategy tahap awal (kemasan, logo dan merk produk)  <i>Students are able to make design specifications, simulate shapes in 3D CAD, and plan early stage brand strategies (packaging, logos and product brands)</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	
CLO-5	Mahasiswa mewujudkan alternatif desain dalam bentuk fisik (studi model) dan melakukan pengembangan dengan evaluasi bentuk, ergonomi, aspek teknis dan faktor desain lain  <i>Students realize design alternatives in physical form (model study) and carry out development by evaluating form, ergonomics, technical aspects and other design factors</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10%	
CLO-6	Mahasiswa membuat purwarupa produk lebih lanjut dengan skala penuh, fungsional dengan kualitas yang baik dan representative  <i>Students make further product prototypes with full scale, functional with good quality and representative</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	30%	
CLO-7	Mahasiswa melengkapi dengan alat presentasi dan dokumen produk yang komunikatif, runtut dan baik  <i>Students are equipped with presentation tools and product documents that are communicative, coherent and good</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	15%	
Total Weight		8%	14%	8%	19%	8%	11%	11%	14%	8%	100%	

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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	CLO-6	CLO-7	Total Weight
1	Project 1: Portofolio Project 1: Portfolio Studi Kasus   Case Method	0%	5%	0%	0%	0%	0%	5%	10%
2	Project 1: Gambar teknik Project 1: Technical drawing Studi Kasus   Case Method	0%	0%	0%	5%	0%	5%	0%	10%
3	Project 1: Animasi Project 1: Animation Studi Kasus   Case Method	0%	0%	0%	0%	5%	5%	0%	10%
4	Project 1: Publikasi media sosial Project 1: Social media publication Kognitif - Tugas   Cognitive - Assignment	5%	0%	5%	0%	0%	0%	0%	10%
5	Project 2: Portofolio Project 2: Portfolio Studi Kasus   Case Method	0%	5%	0%	0%	0%	0%	10%	15%
6	Project 2: Gambar teknik Project 2: Technical drawing Studi Kasus   Case Method	0%	0%	0%	5%	0%	10%	0%	15%
7	Project 2: Animasi Project 2: Animation Studi Kasus   Case Method	0%	0%	0%	0%	5%	10%	0%	15%
8	Project 2: Publikasi media sosial Project 2: Social media publication Kognitif - Tugas   Cognitive - Assignment	5%	5%	5%	0%	0%	0%	0%	15%
TOTAL		10%	15%	10%	10%	10%	30%	15%	100%
Target		10%	15%	10%	10%	10%	30%	15%	100%



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DP184515

Desain Produk 2

Product Design 2

6 credits

Coordinator: Andhika Estiyono, S.T., M.T.

Course Form :  
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## Course Description

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LO CLO Assessment &amp; Evaluation Plan Lesson Plan

## Lesson Plan

Weeknum	Course Material	Learning Method	
1	Perkenalan Mata Kuliah Desain Produk 2. Penjelasan tugas pertama Desain Produk 2 : Desain handtools <i>Product Design 2 Course Introduction. Explanation of the first task Production Design 2: Hand tools design</i>	Non SCL	 
2	Studi aktivitas dan Faktor Manusia pada Handtools <i>Study of activities and human factors on hand tools</i>	Case method	 
3	Modeling manual pada desain handtools, dan Menentukan desain terpilih <i>Manual modeling on design handtools, and Design selection</i>	Metode SCL lainnya	 
4	Usability testing. Detail Design dan model/purwarupa handtools <i>Usability testing. Detailed designs and models/prototypes of hand tools</i>	Metode SCL lainnya	 
5	Portofolio dan gambar teknik (review). Melanjutkan Membuat Detail Design dan model/purwarupa handtools <i>Portfolio and technical drawings (review). Continuing to make detailed designs and handtools models/prototypes</i>	Metode SCL lainnya	 
6	Project kedua Desain Produk 2 : Desain enclosure speaker. Membuat moodboard <i>Second Project Product Design 2: Speaker enclosure design. Making moodboard</i>	Metode SCL lainnya	 
7	Studi eksisting & studi volume. Reverse Engineering <i>Existing studies &amp; volume studies. Reverse Engineering</i>	Metode SCL lainnya	 
8	UI pada desain enclosure. Preliminary idea : membuat 25 thumbnail sketches <i>UI on enclosure design. Preliminary idea : make 25 thumbnail sketches</i>	Metode SCL lainnya	 
9	Pengantar tentang desain speaker. Pemilihan alternatif desain: 10 desain terpilih <i>An introduction to speaker design. Selection of design alternatives: 10 selected designs</i>	Metode SCL lainnya	 
10	Studi konfigurasi. Studi alternatif konfigurasi <i>Configuration study. Study alternative configuration</i>	Metode SCL lainnya	 
11	Paper prototyping dan usability testing. Melanjutkan membuat paper prototype dan usability testing <i>Paper prototyping and usability testing. Continuing to make paper prototypes and usability testing</i>	Metode SCL lainnya	 
12	Pengantar CAM. Pemilihan alternatif desain <i>CAM Introduction. Selection of design alternatives</i>	Metode SCL lainnya	 
13	Gambar presentasi & gambar operasional (review). Melanjutkan membuat purwarupa <i>Presentation drawings &amp; operational drawings (review). Continuing prototyping</i>	Metode SCL lainnya	 
14	Cek progres. Melanjutkan membuat purwarupa <i>Check progress. Continuing prototyping</i>	Metode SCL lainnya	 
15	Gambar Teknik. Melanjutkan membuat gambar teknik <i>Technical drawings. Continuing to make technical drawings</i>	Metode SCL lainnya	 
16	Portofolio & presentasi 3 menit. Pengumpulan tugas besar kedua <i>Portfolio &amp; presentation 3 minutes. Second final project</i>	Metode SCL lainnya	 

Bahasa Indonesia

English

Choose method

