

Ergonomics

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	Ergonomics
Course unit code	DP184411
Type of course unit	Compulsory
Level of course unit	First cycle Bachelor
Year of study when the course unit is delivered	2 nd year
Semester/trimester when the course unit is delivered	4 th semester
Number of ECTS credits allocated	6,4 ECTS Credits
Name of lecturer	Hertina Susandari, S.T., M.T.
Learning outcomes of the course unit	1) Students can implement ergonomic aspects in designing complex physical environments: workstations, cabins, etc. 2) Students can conduct ergonomic experiments in design research. 3) Students can create user interface plans for products.
Mode of delivery (face-to-face, distance learning)	face-to-face
Prerequisites and co-requisites (if applicable)	-
Course content	<p>Ergonomics is a scientific discipline that studies the understanding of interactions between humans and other elements of a system and a profession that applies theory, principles, data, and methods to design with the goal of optimizing human capabilities and the overall performance of the system. Ergonomics develops a holistic approach by considering and accounting for physical, cognitive, social, organizational, environmental factors, and other relevant factors.</p> <p>1) Scope of Ergonomics:</p> <ul style="list-style-type: none"> • Physical Ergonomics: anatomy and body posture of humans, anthropometry, biomechanics, and human physical characteristics. • Cognitive Ergonomics: perception, memory, thinking, humanmachine interaction, reliability, work fatigue, and usability testing. • Organizational Ergonomics: participatory design.

	<p>2) Elements of Ergonomics:</p> <ul style="list-style-type: none"> • Characteristics of human perception (touch, sight, taste, smell, hearing) and their application in designing work environments. • Anthropometry and its application to design subjects (design of workstations, public facilities, etc.). • Biomechanics and its application to design subjects (design of hand tools, carrying aids, etc.)
Recommended or required reading and other learning resources/tools	<ul style="list-style-type: none"> • Grandjean E, Fitting the Task to The Man ;London:Taylor & Francis Ltd,1982 • Wesley E. Woodson, Human Factor Design Handbook ;NewYork:McGraw Hill, 1981. • Dumas, J.S., Redish, J.C., A Practical Guide to Usability Testing. Ablex, Norwood, NJ. 1994 • Preece, Jennifer;Rogers, Yvonne;Sharp, Helen.Interaction Design: beyond human-computer Interaction.New York: John Wiley&Sons.Inc. (2002) • Saffer, Dan. Designing for interaction : creating smart applications and clever device. USA : AIGA Design Press, 2007 • Han,Sung H; Yun, Myung Hwan; Kwahk, Jiyoun; Hong, Sang W.2001. "Usability of consumer electronic products". International Journal of Industrial Ergonomic. Vol.28, page 143-151
Planned learning activities and teaching methods	Study Case; Team Based Learning
Language of instruction	Indonesia
Assessment methods and criteria	Assignment, Project, Midterm Evaluation and Final Evaluation

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Course Details

DP184411

Ergonomi

Ergonomics

4 credits

Coordinator: Hertina Susandari, S.T., M.T.

Course Form :

Course Type : Tidak Ada

Minimum Passing Grade : C

Course Description

Disiplin saintifik yang mempelajari pengertian dari interaksi antara manusia dan elemen lain dari suatu sistem dan profesi, yang mengaplikasi teori, prinsip, data dan metode untuk mendesain dengan tujuan mengoptimalkan kemampuan manusia dan keseluruhan performa sistem. Ergonomi mengembangkan pendekatan holistik dengan mempertimbangkan dan memperhitungkan faktor fisik, kognitif, sosial, organisasional lingkungan dan faktor lain yang relevan

No description yet.

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

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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 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 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. Ketrampilan presentasi lisan, tulisan dan multimedia dan teknologi presentasi secara umum <i>Oral, written and multimedia presentation skills and general presentation technology</i>
<input type="checkbox"/>	7. Ketrampilan 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 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

DP184411

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Course Type

: Tidak Ada

Minimum Passing Grade

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No description yet.

LO CLO Assessment & Evaluation Plan Lesson Plan

Course Learning Outcomes

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Curriculum: Kurikulum 2018 S-1 Desain Produk

Code	Description of CLO	Mapping of CLO to LO		Weight of CLO
		LO 6	LO 9	
CLO-1	Mahasiswa mampu mengimplementasikan aspek-aspek ergonomi dalam merancang desain lingkungan fisik yang kompleks <i>Able to implement ergonomic aspects in designing the complex physical environment</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	35%
CLO-2	Mahasiswa mampu melaksanakan eksperimen ergonomi dalam penelitian desain. <i>Able to do an ergonomics experimental through design research</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	35%
CLO-3	Mahasiswa mampu membuat perencanaan user interface pada produk <i>Able designing user interface</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30%
Total Weight		60%	40%	100%

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No description yet.

LO CLO Assessment & Evaluation Plan Lesson Plan

Assessment & Evaluation Plan

No.	Evaluation Plan	CLO-1	CLO-2	CLO-3	Total Weight
1	Tugas 1 (Ergonomi Fisik & lingkungan) Assigmt 1 (Physical & Environment Ergo) Studi Kasus Case Method	17.5%	8.75%	0%	26.25%
2	ETS Midterm Test Kognitif - UTS Cognitive - Midterm Exam	17.5%	8.75%	0%	26.25%
3	Tugas 2 (Visual & kognitif Ergo) Assignmnt 2 (Visual & Cognitive Ergo) Hasil proyek Team-based Project	0%	8.75%	15%	23.75%
4	EAS Final Exam Hasil proyek Team-based Project	0%	8.75%	15%	23.75%
TOTAL		35%	35%	30%	100%
Target		35%	35%	30%	100%

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LO CLO Assessment & Evaluation Plan Lesson Plan

Lesson Plan

Weeknum	Course Material	Learning Method		
1	Pengantar: Ergonomi Overview: Ergonomics	Non SCL		
2	Anthropometri 1 Anthropometric 1	Metode SCL lainnya		
3	Anthropometri : Praktikum Anthropometric: Practicum	Metode SCL lainnya		
4	Anthropometri 2 Anthropometric 2	Non SCL		
5	Anthropometri 3 Anthropometric 3	Metode SCL lainnya		
6	Pengkondisian lingkungan kerja 1 Ergoenviromment 1	Non SCL		
7	Pengkondisian Lingkungan Kerja: Praktikum Pengkondisian Lingkungan Kerja: Practicum	Metode SCL lainnya		
8	Pengkondisian Lingkungan Kerja 2 Pengkondisian Lingkungan Kerja 2	Non SCL		
9	Evaluasi Tengah Semester Midterm Test	Non SCL		
10	Ergonomi Visual/ Kognitif 1 Ergo Visual/ Cognitive 1	Non SCL		
11	Ergonomi Visual/ Kognitif 2 Ergo Visual/ Cognitive 2	Team-based project		
12	Ergonomi Visual/ Kognitif 3 Ergo Visual/ Cognitive 3	Metode SCL lainnya		
13	Ergonomi Visual/ Kognitif 4 Ergo Visual/ Cognitive 4	Team-based project		
14	Ergonomi Visual/ Kognitif 5 Ergo Visual/ Cognitive 5	Non SCL		
15	Ergonomi Visual/ Kognitif 6 Ergo Visual/ Cognitive 6	Metode SCL lainnya		
16	Evaluasi Akhir Semester Final Exam	Team-based project		
<div><div><div>Bahasa Indonesia</div><div>English</div></div><div>Choose method ▼</div><div> </div></div>				