ENGINEERING PF
SCHOOL OF ENGINEERING
Fakultät für Technik
Hochschule Pforzheim

HS PF

Syllabus

BAE4173 Value Based Product Development

Dipl.-Ing. Sascha Ott

Summer Semester 2022

Level	Bachelor	
Credits	3	
Student Contact Hours	2	
Workload	90 hours	
Prerequisites	You should have good command over the English language.	
Time	s. LSF	
Room	s. LSF	
Start Date	s. LSF (Please check on e-learning/LSF. It is a key requirement to participate in the first lecture of the term. Upon this occasion, all subsequent lecture dates will be agreed upon.)	
Lecturer(s)	**Name**	Dipl.-Ing. Sascha Ott, Institut für Produktentwicklung, KIT/Karlsruhe
	Office	N/A
	Virtual Office	Virtual Office Prof. Woidasky
	Office Hours	Upon appointment
	Phone	N/A
	Email	sascha.ott@kit.edu

Summary

During this seminar, students learn about procedures for product development and learn and apply miscellaneous methods for assessment, improvement, and creativity in product design.

Outline of the Course

- Introduction and implication of product design in businesses
- VDI 2206
- Münchener Produktkonkretisierungsmodell (MKM) or Karlsruher SPALTEN process
- miscellaneous management techniques

Course Intended Learning Outcomes and their Contribution to Program Intended Learning Outcomes / Program Goals

	Learning outcome	Contribution	Assessment
1.3	Students demonstrate key knowledge in Business Administration.	Strategic decisions, theories and instruments of International Management	Participation in class + outcome of assigment
1.4	Students demonstrate key knowledge in Economics.	Background to international economics and international trade	Participation in class + outcome of assigment
2.2	Students demonstrate the ability to use information systems effectively in real world business settings.	Research on different countries	Participation in class + outcome of assigment
3.1	Students are able to apply analytical and critical thinking skills to complex problems.	Develop own case study in international business	Class work, presentations
4.1	Students are able to develop business ethics-based strategies and are able to apply them to typical business decision-making problems	Ethical decision making in international management	Discussion in Class + outcome of assignment
5.1	Students demonstrate their ability to express complex issues in writing.	Assignments	assignments
5.2	Students demonstrate their oral communication skills in presentations and lectures.	Communication of knowledge in International Management and Cross-Cultural Management	Discussion in class
6.1	Students show that they are able to work successfully in a team by performing practical tasks.	Conducting group work	Outcome of group work

Teaching and Learning Approach

Learning will be achieved through presentation and to a larger extent through group work, discussion, and additional students presentation.

Literature and Course Materials

Handouts (e-learning based)

Background reading:

- Ehrlenspiel, K.: Integrierte Produktenwicklung. Hanser Verlag, München, 2009, ca. 80,-€ / 770 S.
- Engeln, W.: Methoden der Produktenwicklung. Oldenbourg, München, 2011, ca. 25,-€ /230 S.
- Schäppi, B. et al.: Handbuch Produktentwicklung. Hanser Verlag, München, 2005; ca. 150,- €/ 840 S.
- Ponn, J.; Lindemann, U.: Konzeptentwicklung und Gestaltung technischer Produkte. Springer Verlag/VDI, 2011; ca. 70,- €/ 460 S.
- Wimmer, W., et al.: Ecodesign – the competitive advantage. Springer Verlag, Dordrecht, 2011; 60,- €/ 230 S.
- Fleischer, G. (Hrsg.): Eco-Design – Effiziente Entwicklung nachhaltiger Produkte mit euro-Mat. Springer Verlag, Berlin, 2000
- Behrend, S. et al.: Umweltgerechte Produktgestaltung – ECO Design in der elektronischen Industrie. Spinger Verlag, Berlin, 1996
- VDI-Richtlinien, u. a.
  2206 (V-Modell/Mechatronik),
  2221 (Entwicklungsmethodik),
  2243 (Recyclinggerechte Produktentwicklung)

Assessment

Individual assessments, based on presentations, paper, and discussion results in class
OR written test (upon discretion of the lecturer)

Recommendations: Observe the requirements and assessment table items below:

Presentations	**formal**	**Overview over the presentation (table of contents)**
		Change of methods (e.g. video, use of board...)
		free speech
		inclusion of audience
		appropiate information on slides (little text)
		no typos/mistakes on slides
		identification of references
		summary
	contents	attractive opening
		continuous line of thought and arguments
		sufficient depth of argumentation
		give quantitative information as much as possible
	Discussion	familiarity with topics
Papers	formal	X pages max.
		Submission due date kept
		paper printout
		identification of references (in text AND as foot/endnotes): Without references never better than "good"
		picture and table captions

		page numbers
		Introduction
		summary
		title
		date
		Identification of type of document
	contents	continuous line of thought and arguments
		sufficient depth of argumentation
		appropriate use of graphs and tables
		give quantitative information as much as possible

Grading: based on seminar / assignment results

- 'Sehr gut' represents exceptional work, far above average.
- 'Gut' represents good work, above average.
- 'Befriedigend' represents average work.
- 'Ausreichend' represents below average work with considerable shortcomings.
- And 'mangelhaft' is just exceptional work in the wrong direction or with unacceptable shortcomings.

Schedule

No.	VBPD
1	Introduction
2	Value concept
3	Target costing
4	Value stream analysis
5	Value stream analysis
6	Standardization approaches
7	Life cycle costing
8	Calculation LCC
9	Value stream mapping
10	VDI 2800
11	VDI 2801
12	VDI 2803
13	VDI 2804
14	Conclusions, Exam preparation

Lecture overview may be subject to change

Code of Conduct for Students

Link to the Code of Conduct for online Teaching

Additional Information

Language: English

Learning Objectives:

After completing this course students

- know different product design methods like MKM, VDI 2206
- have learned about and applied different problem solving schemes, FMEA, QFD, and creativity techniques
- are able to present their works results orally and in writing