Hochschule Niederrhein
University of Applied Sciences

Textil- und Bekleidungstechnik
Faculty of Textile and Clothing Technology

Modulhandbuch

zur Reakkreditierung

des Bachelorstudienganges

Textile and Clothing Management

Fachbereich Textil- und Bekleidungstechnik
Erstellt am 21.11.2020

Inhaltsverzeichnis

Modul **TCM-230: Marketing**

Sprache Englisch
Verantwortlich Prof. Dr. Susanne Müller
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Marketing	4	5	4	0	0	0	4
Lehrende/r:	Prof. Dr. Müller, Susanne							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-230	Marketing	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Große Veränderungen mit enormen wirtschaftlichen und sozialen Herausforderungen
prägen das 21. Jahrhundert. Daraus ergeben sich große globale Marktchancen für die Fashion-Industrie.
Ausgehend von den Bedürfnissen der Fashion-Konsumenten müssen heute Fashion-Produkte
zeitgenau angeboten werden, damit die Unternehmen vor dem Hintergrund der
Fast-Fashion noch existieren können. Des Weiteren müssen neben den Heimatmärkten auch
globale Märkte gefunden werden, um einen Ausgleich zu den gesättigten heimischen Konsumenten zu finden.
In der 4 stündigen Veranstaltung "Marketing" werden zunächst diese neuen Marktherausforderungen in diversen Case Studies erarbeitet, um daraus dann die richtigen Konzepte für zukünftigen Marketingstrategien zu entwickeln.
Dabei werden neben den klassischen, traditionellen Marketinginstrumenten auch Schwerpunkte gelegt auf die neuen Möglichkeiten, die sich durch die Nutzung von Social Media Marketing für die Fashion-Unternehmen ergeben. Hierzu wird ebenfalls auf Basis diverser Case Studies Problemansätze und Lösungsmöglichkeiten erarbeitet.

Tremendous changes with enormous economical and social challenges describe the 21st century.
The result are big global market potentials for the fashion industry.
Depending on the desires of the fashion consumers, today´s fashion products have to be offered fast.
This makes it possible that the fashion companies in the age of fast fashion are able to compete.
Besides the domestic markets there have to be found and conquered global markets to compensate the satisfied domestic consumers.
In the 4 hours weekly lecture "Marketing" these new market challenges are described in several case studies.
On their basis, new marketing concepts will be developed with the help of the traditional marketing tools
as well as with the Social Media Marketing tools.
With the help of additional case studies, solutions will be found.

Marketing:
- Marketing Umgebung ,
- Globale Märkte,
- Marktsegmentierung und Positionierung,
- Customer relationship management,
- Wettbewerbsvorteile,
- Markenpolitik und Verpackung,
- Produktentwicklung,
- Produktlebenszyklus-Analysen,
- Kontrahierungspolitik,
- Distributionspolitik.

- Marketing environment and global marketplace,
- Market segmentation, targeting and positioning,
- Building customer relationships,
- Creating competitive advantages,
- Brands, products, packaging,
- Product development and life-cycle-strategies,
- Pricing considerations and approaches,
- Pricing strategies.

Marketing

Inhalte

- Marketing Umgebung
- Globale Märkte
- Marktsegmentierung und Positionierung
- Customer relationship management
- Wettbewerbsvorteile
- Markenpolitik und Verpackung
- Produktentwicklung
- Produktlebenszyklus-Analysen
- Kontrahierungspolitik
- Distributionspolit
- Social Media Marketing

- Marketing environment and global marketplace
- Market segmentation, targeting and positioning
- Building customer relationships
- Creating competitive advantages
- Brands, products, packaging
- Product development and life-cycle-strategies
- Pricing considerations and approaches
- Pricing strateies
- Social Media Marketing

Literatur

Kotler, Philip: Principles ofMarketing.
Berkowics, E.: Marketing. Irwin McGraw-Hill, ISBN 0-07-365645-3
Kotabe,M.; Helsen,K.: Global Marketing Management, Wiley, ISBN 0-471-23062-6
Boone,L.; Kurtz,D.: Conntemporary Business, Harcourt College Publishers ISBN 0-03-033226-5
Streibel, B.: The manager ´s guide to effective meetings, McGraw-Hill, ISBN 0-07-139134-7

Modul **TCM-240: Printing**

Sprache Englisch
Verantwortlich Prof. Dr. Mathias Muth
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Digital Printing	4	5	4	0	0	0	4
Lehrende/r:	Prof. Dr. Muth, Mathias							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-240	Digital Printing	Pr	Klausur

Anmerkung

Übergreifende Modulziele

The students know the basic technologies of textile printing. They are able to compare the different printing processes and they are competent to select adequate printing systems, dyestuffs, auxiliaries textile substrates for different applications.
The knowledge of selecting the appropriate procedures for the most important fibres such as cotton, viscose, wool as natural fibres and polyamide, polyester, polyacrylics and elastic fibres will be tought.
By learning quality assessment procedures the students will be able to identify possibilities and limitations of textile printing technologies.

Digital Printing

Inhalte

- Basics of Digital Textile Printing
- Definitions
- History
- Market data
- Trends and perspectives
- General principles and requirements on textile substrates
- Pretreatment
- Coating
- Fixation
- Aftertreatment
- Inks for digital textile printing
- Requirements on water-based inks
- Dye-based vs. pigment inks
- InkJet Technology
- Drop-On-Demand vs. Continuous InkJet
- Print heads
  - Piezo
  - Bubble Jet
  - Valve Jet
- Basics in Colour Management Software
- RIP
- Substractive colouration
- Advantages vs. disadvantages of digital textile printing
- Ecological aspects of digital textile printing

Literatur

Digital Textile, different issues, World Textile Information Network
H. Ujiie: Digital Printing of Textiles, Woodhead Publishing, 2006
Ch. Cie: InkJet Textile Printing, Woodhead Publishing, 2015
H.-K. Rouette: Enzyklopädie Textilveredlung, Deutscher Fachverlag, 2008

Modul **TCM-250: Supply Chain Management**

Sprache Englisch
Verantwortlich Prof. Dr. Markus Muschkiet
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Logistics	2	3	2	0	0	0	4
Lehrende/r:	Prof. Dr. Muschkiet, Markus							
Voraussetzung:								
Bezeichnung:	Fashion Retailing	2	2	2	0	0	0	4
Lehrende/r:	Prof. Dr. Heinemann, Gerrit							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-250	Supply Chain Management	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Students are able to evaluate different Supply Chain Management (SCM) strategies and approaches. They should be also able to succeed in SCM projects with interdisciplinary teams in their professional life.

Logistics

Inhalte

In the lecture Logistics the basics of the different logistics areas are taught. In the first part the focus will be on intralogistics with its material flow and storage techniques. In particular, systems of textile and clothing logistics, such as conveyor systems for hanging goods and (automated) storage systems. In the second part the transport and traffic logistics are considered. Those parts cover the basic transportation, transshipment and warehouse processes of logistics. In addition, the interfaces between these processes and applied methods are taken up and illustrated by examples. The aim is to communicate the general logistical foundations in combination with a deepening aspect of the textile and clothing industry / logistics.

Literatur

Muschkiet , M.: Logistics, script of lecture

Fashion Retailing

Inhalte

- Fashion Retailing Today - Facts and Figures
- Formats in Retailing - How to Structure Fashion Retailing
- New Forms of Fashion Retailing: Offline, Online, No-Line
- Online Fashion Retailing: Specifics, Demands, Best Practices
- Format Positioning in Fashion Retailing
- Verticalisation in Fashion Retailing
- Internationalisation in Fashion Retailing
- Buying and Inventory Management
- Marketing and Sales in Fashion Retailing
- Category Management in Fashion Retailing - Demand Side
- Logistics and Supply Chain Management in Fashion Retailing - Supply Side
- Logistics and Physical Distribution
- E-Procurement and Automation

Literatur

Literature

Zentes, J.; Morschett, D.; Schramm-Klein, H. (2016). Strategic Retail Management, Springer-Gabler. Wiesbaden.
Kubel, H.; Williams, S. (2015). Marketing Fashion: Strategy, Branding and promotion. Harrier Posner.
Heinemann, G.; Gaiser, C. (2015). Social, Local, Mobile: The Future of Location-based Shopping. Berlin.
Koumbis, D. (2014). Fashion Retailing. From Managing to Merchandising (Best Practice Management). Bloomsbury.
Heinemann, G.; Schwarzl, C. (2010): New Online-Retailing - Innovation and Transformation. Wiesbaden.
Diamond, Ellen (2006): Fashion Retailing - A Multi-Channel-Approach
Saviolo, Stefania, Testa, Salvo, Strategic Management in the Fashion Companies, Etas, Milano 2002
McGoldrick, Peter J., Davies, Gary, International Retailing -
Trends and Strategies, Pitman Publishing, London, 1995
Heinemann, Gerrit (2008): Multi-Channel-Handel - Erfolgsfaktoren und Best Practices
Ahlert, Dieter/ Große-Bölting, Kristin/ Heinemann, Gerrit (2009): Handelsmanagement in der Textilwirtschaft - Einzelhandel und Wertschöpfungspartnerschaften

Modul **TCM-260: Human Resources Management**

Sprache Englisch
Verantwortlich Prof. Dr. Walter Harsch
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Human Resources Management	4	5	4	0	0	0	4
Lehrende/r:	Prof. Dr. Eigenstetter, Monika							
Voraussetzung:	None							

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-260	Human Resources Management	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Companies are successful if their employees are successful. The selection, qualification, and development of the staff are main targets to ensure the economy of companies and the human design of industrial work.

Students get an overview about important aspects of human resources, that lead to highly motivated and qualified employees and therefore to successful companies. They know about instruments, concepts and proceedings to find out about potential weak spots in organizational behaviour as well as to improve situations. This enables them to develop and introduce future-orientated solutions in industry.

Human Resources Management

Inhalte

- Overview about the different fields of Human Resources
- Leadership styles and necessary leadership competencies
- Motivational theories and their transfer in real leadership systems
- Negotiations
- Personnel Time Management
- Job applications and job interviews
- Quantitative and qualitative personnel planning
- Intercultural aspects in Human Resources
- Continuous Improvement Process (CIP)
- Basic forms of classic and "modern" remuneration systems
- Assessment Centres
- Generation Y

Literatur

Bröckermann, R.: Personalwirtschaft. Stuttgart. 2. Auflage 2001.
Olfert, K.; Steinbuch, P. A.: Personalwirtschaft. Ludwigshafen (Rhein, 9. Auflage, 2001
Blom, H.; Meier, H. (Hrsg.): Interkulturelles Management. Herne, Berlin, 2002
Heß, M.: TQM/KAIZEN-Praxisbuch. Verlag TÜV Rheinland, 1994
Harsch, W.: Manuscript, version of the relevant semester.
Hindle, T.: Manage your time. London, New York, Sydney, Moscow, 1998
Dixon, R.: Management theory and practise made simple. Oxford, 1991
Straw, A.; Shapiro, M.: Succeeding at interviews in a week. Oxon, 2nd Edition, 1998
Eggert, M.: The perfect CV. London, 1994.

Modul	**TCM-270: Ergonomics**

Sprache	Englisch
Verantwortlich	Prof. Dr. Walter Harsch
Arbeitsbelastung	SWS 4 ECTS 5
	60h Präsenz
	43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
	22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Ergonomics	4	5	4	0	0	0	5
Lehrende/r:	Prof. Dr. Eigenstetter, Monika							
Voraussetzung:	None							

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-270	Ergonomics	Pr	Klausur

Anmerkung

Übergreifende Modulziele

The design and continuous optimization of the work processes are main targets to ensure the economy of companies and the human design of industrial work.

Students therefore know essential elements how to organize work and design it in detail. They are able to analyze and optimize work systems and to assess consequences of unfavorable and improved work processes. Such knowledge about the correct use of manpower enables the students to support the future viability of companies.

Ergonomics

Inhalte

- Objectives and contents of ergonomics
- Evaluation levels of work processes
- Physiological and anthropometric aspects of work design
- Calculation of maximum permitted workloads
- Design of work methods according to the rules of motion economy, motion simplification and motion intensification
- Time data methods
- Methods Time Measurement (MTM)
- Groups
- Motivational theories
- Basic forms of work structuring
- Context between legal, tariff and in-house regulations of work
- Working time, breaks, flex time, shift work
- Environmental conditions (e.g. illumination, noise)
- Evaluation of work systems

Literatur

Hammer, W.: Wörterbuch der Arbeitswissenschaft. München, 1997.
Hettinger, T.; Wobbe, G. (Hrsg.): Kompendium der Arbeitswissenschaft. Ludwigshafen (Rhein), 1993.
Harsch, W.: Manuscript, version of the relevant semester.
Dixon, R.: Management theory and practise made simple. Oxford, 1991.
Kroemer, K. H. E.; Kroemer, K. H., Kroemer, H. E.: Fitting the Task to the Human, Fifth Edition: A Textbook of Occupational Ergonomics. Crc Pr Inc, 5. Auflage 1997.

Modul	**TCM-280: Organisation and Controlling**

Sprache	Englisch
Verantwortlich	Prof. Dr. Gerrit Heinemann
Arbeitsbelastung	SWS 4 ECTS 5
	60h Präsenz
	43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
	22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Organisation	2	3	2	0	0	0	4
Lehrende/r:	Prof. Dr. Heinemann, Gerrit							
Voraussetzung:	English							
Bezeichnung:	Controlling	2	2	2	0	0	0	4
Lehrende/r:	Prof. Dr. Schlick, Uwe							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-280	Organisation and Controlling	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Organisation and Controlling are main success factors in management. Especially for textile- and fashion enterprises, which are leading examples for other industries due to all restructuring topics, they are key issue. The structural change of the last decades could have only be managed on the basis of adequate organisational tools. It´s all about structural change management and also optimisation of processes. This is the reason, why pure verticals like H&M and also inditex are so successful. They are the most successfull fashion companies in the world and example for other industries. Students have to understand the opportunity of organisational reinventions. They need basic knowledge of business- and process organization. They also should be able to control changes and companies. That´s why controlling and modern controlling methods have also a key role in modern management. The students should know the tasks of Controlling as Top-Management function.
After their study students are able to differentiate the functional and institutional aspects of Corporate Controlling. They know the tasks of Strategic Controlling, can explain the instruments of Strategic Controlling (g.e. Gap-, Portfolio- and LC-Analysis) and are able to use them in excercises. Students know the tasks of Operative Controlling, can explain the instruments of operative Controlling (g.e. ratios, margin- and effectivity-measurement) and are able to use them in excercises. They know the most important KPI´s like ROCE and understand the interdependencies of the main key figures.
The students are also able to categorize principle terms of Business Organisation. They understand first terms of Organizational Sciences, show understanding for Business Processes, achieve a broad view about the relevant issues of Organizational Sciences, know the relevant terms of Organizational Sciences and know the differences between Structual Organisation and Process Organization. They also can describe the relevant forms of Primary Organization and Secondary Organization, know the advantages of different forms of structural Organisation and can repeat the main areas of working organisation. The student also know the basics and objectives of process organisation. They understand the difference and relationship of structural and process organisation. The students get an overview of central applications of process organisation and know the main specifics of process organisation in manufacturing. They understand, which methods are used in process organisation. They can describe the basics and characteristics of process organisation, understand the development and optimisation of business processes and their external linkages. The students are able to differentiate the traditional value chain and the virtual value chain.

Organisation

Inhalte

BUSINESS ORGANISATION

- Purpose and Motives of Organisation
- Objectives of Organisation and Companies for Organisation
- Interrelation between Business and Process-Organisation
- Job Development and Job Filling
- Structural Principles and Hierachies
- Forms of Primary Organisation in Business Organisation + Case Study
- Forms of Secondary Organisation in Business Organisation + Case Study
- Delegation and Leadership + Case Study
- Structure follows strategy

PROCESS ORGANISATION IN MANUFACTURING

- Value Chain Concept - 90°-Shift of the Organisation
- Objectives of Process Organisation
- Areas of Manufacturing-Organisation
- Workshop-Manufacturing versus Assembly-Line-Manufacturing
- PPS-Production-Planning-Systems
- Manufacturing 4.0 - FMC-Flexible-Manufacturing and CIM-Computer Integrated Manufacturing
- Team-Organisation in Manufacturing
- Total-Quality-Management
- Material-Management and Inhouse Logistics

Literatur

Literature

Karms, M. P.; Mingst, K. A. (2015). International Organizations. The Politics and Processes of Global Governance.
Robertson, B. J. (2016): Holacracy: A Revolutionary Management System that Abolishes Hierachy. Henry Holt.
Laloux, F. (2014).Reinventing Organiszations: A Guide to Creating Organizations Inspired by the Next Stage in Human Consciousness. Nelson Parker.
Galbrath, J. R. (2014). Designing Organizations. Strategy, Structure, and Process at thze Business Unit and Enterprise Levels. Jossey-Bass.
Hemes, T. (2014). A Process Theory of Organisation. Oxford.
Dankbaar, Ben (Hrsg.), Perspectives in industrial organizations, Kluwer Acad. Publ., last edition
Robbins, Stephen P., Organization theory : structure, design, and applications., last edition

Controlling

Inhalte

Content

Definition of Controlling
- functions/tasks of controlling
- controlling within the organisastion
- selfunderstanding of controlling
- perspectives of controlling

Information supply in controlling
- information supply by financial accounting
- information supply by cost accounting
- information supply by management reporting
- key performance indicators

Strategic Controlling
- the strategic management process
    - vision-/mission-definition
    - setting objectives
    - crafting and formulation of the strategy
    - implementing and evaluating of the strategy
- instruments and methods of strategic controlling
    - szenario analysis
    - lifecycle analysis
    - portfolio analysis
    - swot-analysis
    - competitative advantage analysis
    - gap analysis

Operational Controlling
- profit planning
- the profit wheel
- the cash wheel
- the roe wheel

Functional Controlling
- supply chain controlling
- production controlling
- marketing controlling
- sales & services controlling

Literatur

Bangs, David: Controlling Cash Flow, Boston 1989
Finlay. Paul: Strategic Management, an introduction to Business and Corporate Strategy, Harlow 2000
Krause, Hans-Ulrich/Dayanand, Arora: Controlling-Kennzahlen - Key Performance Indicators, München 2008
Simons, Robert: Performance Measurement & Control Systems for Implementing Strategy, New Jersey 2000
Weber Jürgen/Schäffer, Utz: Introduction to Controlling, Stuttgart 2008

Modul	**TCM-290: Production Engineering**

Sprache	Englisch
Verantwortlich	Prof. Mathias Paas
Arbeitsbelastung	SWS 4 ECTS 5
	60h Präsenz
	43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
	22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Clothing Production Engineering	4	5	4	0	0	0	4
Lehrende/r:	Prof. Paas, Mathias							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-290	Clothing Production Engineering	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Students get confronted with relevant manufacturing steps in processing sewn or welded products like garments, seats or technical textiles etc..
Starting from the definition of requirements for all kind of trimmings and fabrics to spreading and cutting, followed by fusing- , joining-, shaping- and finishing techniques will get introduced and discussed.

Students should be able to choose the optimum techniques in processing according to the needs of a product or article.
They get enabled to evaluate various manufacturing techniques according to the size of production sites as well as to technology level of probable production countries.
Based on standard products like Jeans or T-shirts different options in manufacturing get introduced and students can evaluate and choose best techniques as well as machinery as well as working methods.
Principles in organizing productions flow are taken to demonstrate e.g. single or bundle production.

Clothing Production Engineering

Inhalte

Students will get comprehensive theoretical and practical knowledge in use and application of clothing machinery and with manufacturing of clothing textiles, home textiles and technical textiles which is an essential field of activity of executive staff in the clothing industry.
The students learn to understand and apply processes and machinery in the clothing industry. The functions and structures of the machinery and their application in manufacturing of textile products will be studied in practical training. This knowledege and experiences allows students to plan efficient machine and process technological applications. This will be practical trained with manufacture of different products (jeans, shirts).

- Introduction: means of the clothing industry, machinery in clothing manufacturing
- Clothing machinery elements
- Spreading methods and machinery
- Cutting methods and machinery
- Preparation of cut work for sewing
- Sewing machinery: classification, basic sewing machinery types, simple automatics, automated workstations, associated work aids
- Welding methods and machinery
- Fusing methods and machinery
- Pressing and related garment finishing: methods and machinery
- Research and development

Literatur

Clothing technology, Europa Lehrmittel Verlag

Modul **TCM-300: Advanced Product Engineering**

Sprache Englisch
Verantwortlich Prof. Mathias Paas
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Advanced Product Engineering	4	5	2	0	2	0	5
Lehrende/r:	Prof. Paas, Mathias							
Voraussetzung:	Clothing production engineering							

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-300	Advanced Product Engineering	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Students get confronted with relevant manufacturing steps in processing sewn or welded products like garments, seats or technical textiles etc.
Starting from the definition of requirements of operations in the sewing industry based on work science related checklists students will get enabled to choose the right operator to a relevant operation.
Workplace layout as well as working methods are discussed and improved.
Basics in Work science systems like REFA and MTM are given and students should know the instruments to control production efficiency as well as product quality.

Students should be able to choose the optimum techniques in processing according to the needs of a product or article to achieve productivity as well as product quality.

Advanced Product Engineering

Inhalte

Students get introduced in the product development processes. The involvemet of Operators, Machinery, Method of manufacturing as well as Quality requirements are demonstrated. Techniques to determine optimal product engineering will be shown.

- Overview in manufacturing techniquies
- Systematical comparon of manufacturing techniques based on Jeans-production reflecting other related products
- Work and time studies
- Cost calculation of sewn products from fabric costs to final sales price at POS
- Checklists for improvement of Workplaces in sewing industries as well as sewing methods
- Operators testing, Standard test: skills and abilities
- Operators training programs
- Define Quality aspects of sewn products and start Quality descriptions later used in Quality manuals
- Practical exercises

Literatur

Eignungstest für Näherinnen, BTI e.V. Mönchengladbach
Lehrunterlage für Ausbilder von Näherinnen
Clothing technology, Europa Lehrmittel Verlag

Modul **TCM-310: Clothing Production**

Sprache Englisch
Verantwortlich Prof. Dr. Kerstin Zöll
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Clothing Production Machinery	2	3	2	0	0	0	5
Lehrende/r:	Prof. Dr. Zöll, Kerstin							
Voraussetzung:								
Bezeichnung:	Clothing Production Practical Training	2	2	0	0	0	2	4
Lehrende/r:	Prof. Paas, Mathias							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-311	Clothing Production Machinery	Pr	Klausur
TCM-312	Clothing Production Practical Training	T	Testat

Anmerkung

Übergreifende Modulziele

The students will get comprehensive theoretical and practical knowledge in use and application of clothing machinery and with manufacturing of clothing textiles, home textiles and technical textiles which is an essential field of activity of executive staff in the clothing industry.
The students learn to understand and apply processes and machinery in the clothing industry. The functions and structures of the machinery and their application in manufacturing of textile products will be studied in practical training. This knowledege and experiences allows students to plan efficient machine and process technological applications. This will be practical trained with manufacture of different products (e.g. shirts, trousers).

Clothing Production Machinery

Inhalte

Clothing Production Machinery

- Introduction: Clothing manufacturing / clothing engineering: facts and figures
- Spreading technology and machinery
- Traditional and automatic cutting machinery
- Sewing machinery: classification, sewing machines for the different stitch types, sewing tools, stitch formation process, feeding systems, automation, quality recommandations
- Alternative joining technologies
- Research and development

Literatur

A detailed script is offered.

Tyler/Carr & Latham's: Technology of Clothing Manufacture, Blackwell Science, 2000
Amann Group: Focus Sewing and Embroidering threads I and II
Ferd. Schmetz GmbH: Guide of sewing technique, Herzogenrath 2015

Due to the nature of the content reading is done with free available sources in the internet.

Clothing Production Practical Training

Inhalte

General Safety-instruction for the use of labaratory´s machinery, General instruction in handling of machinery and equipment necessary to make a shirt.
Students will receive practical training in manufacturing laboratories. Lay-planning exercises, Cutting and laminating practical training as well as sewing and ironing exercises while doing an own shirt. Exercises will get introduced by video film sequences.

Literatur

Shirt making operations on Youtube
Shirtmaking video published by Dürkopp-Adler Comp., Bielefeld
Shirtmaking operations on video by Hochschule Niederrhein (not open for public use)

Modul	**TCM-320: Clothing Construction**
Sprache	Englisch
Verantwortlich	Prof. Dr. Michael Ernst
Arbeitsbelastung	SWS 4 ECTS 5 60h Präsenz 43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien) 22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	CAD 2D/3D Clothing Construction	2	3	0	0	2	0	5
Lehrende/r:	Prof. Dr. Ernst, Michael							
Voraussetzung:								
Bezeichnung:	Product Development Process Design	2	2	2	0	0	0	4
Lehrende/r:	Prof. Dr. Ernst, Michael							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-321	CAD 2D/3D Clothing Construction	Pr	Computer
TCM-322	Product Development Process Design	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Students get a deep understanding of product development in clothing industry, starting with a design idea and ending up with a finished product presented at POS. They learn about all the basic tools used in industry to handle this process along the product development chain. A main focus is on digital pattern making resulting in getting fundamental knowledge in this field with regard to future concepts in simulation technology. This comes together with gaining manufacturing skills to build up expertise and to be skilled in analysing existing and developing new process ideas for clothing industry.

CAD 2D/3D Clothing Construction

Inhalte

- Basics of 2D-3D prototyping
- Overview 2D-3D CAD software, virtual stitching, flattening
- Introduction to a selected 2D program
- Introduction to a selected 3D program
- Building up basic blocks, styles and models
- Virtual fit control of basic blocks
- Virtual Prototyping- stylistic and technical
- Virtual product development 2D-3D-2D
- Generation of scanatars and import of scanatars
- Rendering methods for product presentation

Literatur

Beazley, A.: Computer-Aided Pattern Design & Product Development; ISBN-13: 978-1-405-10283-4
Stott, M.: Pattern Cutting for Clothing Using CAD; ISBN-13: 978-0-857-09231-1

Product Development Process Design

Inhalte

- Definition of product development
- Diversity of process types for product development with outsourced process steps
- Process dependant tasks of design and pattern departments, stylistic and technical product development, work process planning
- Implementation of agencies and suppliers overseas
- Quality consistency in product development process
- Manufacturing and quality check of products
- Real versus virtual product development
- Virtual prototyping and product development based on avatars, scanatars and statistical avatars
- Importance of sizing systems, sizing and fit, international sizing, body measurement charts and ready measurement charts, grading tables
- Examples of product development based on requirement profiles:
women´s outer garment, outdoor, workwear, protection suits

Literatur

Ulrich, K.T.: Product Design and Development; ISBN-13: 978-0-070-65811-0
Gardetti, M. A.:Sustainable Management of Luxury (Environmental Footprints and Eco-design of Products and Processes); ISBN-13: 978-9-811-02916-5
Keiser, S. J.: Beyond Design: The Synergy of Apparel Product Development; ISBN-13: 978-1-609-01226-7
Lee, J.: Technical Sourcebook for Designers; ISBN-13: 978-1-501-39537-6
Johnson, M. J.: Apparel Product Development; ISBN-13: 978-0-130-25439-9
Winfried, A.: Metric Pattern Cutting for Women's Wear; ISBN-13: 978-1-444-33505-7
Jeffrey, M.: Costing for the Fashion Industry; ISBN-13: 978-1-847-88259-2
Szkutnicka; B.: Flats: Technical Drawing for Fashion; ISBN-13: 978-1-856-69618-0
Ashdown, S.: Sizing in Clothing; ISBN-13: 978-1-845-69034-2

Modul **TCM-330: Product Planning**

Sprache Englisch
Verantwortlich Prof. Ute Detering-Koll
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Product Data Management	2	2	2	0	0	0	5
Lehrende/r:	Prof. Detering-Koll, Ute							
Voraussetzung:								
Bezeichnung:	Production Planning and Control	2	3	2	0	0	0	5
Lehrende/r:	Prof. Dr. Muschkiet, Markus							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-330	Product Planning	Pr	Klausur

Anmerkung

Übergreifende Modulziele

In times of global markets and production the modul Product Planning gives a branch-neutral overview of theoretical basics for Product Data Management (PDM) and Production Planning and Control (PPC). Thus the students understand PDM as an integrated, structured and consistent administration of all data and documents which have to be generated, processed and passed on during the development of new or modification of existing products. In addition to that the students become acquainted with the dynamic view and integration of enhanced applications. Besides that, they are able to understand the prerequisites and procedures of enterprise implementation of PDM-Systems. In addition, the methodological and organizational measures as well as models of the PPC are discussed. These aspects will be combined with fundamental factors and trends affecting production companies and their production. The aim is to provide the basis for assessing PPC. Furthermore the processes upstream and downstream of the production process have an appropriate view in order to be able to classify the interfaces and influencing variables to production in general and PPC in particular.

Product Data Management

Inhalte

Introduction
- Current position vis-à-vis competitors
- New work techniques and structures
- Common initial position
- Definitions
- Historical development
- Product life cycle
- Value chain

Static Models - Product Models
- Data management
- Document management
- ERP couplings

Dynamic Models - Process Models
- Process Management (Workflow Management)
- Configuration Management (Lifecycle Management)

Comprehensive Models - Integration Models
- Engineering Warehouse (EW)
- Enterprise Application Integration (EAI)
- engineering Collaboration (eCol)
- Supply Chain Management (SCM)
- e-Commerce (eCom)

Literatur

Eigner,M.; Stelzer, R.: Produktdatenmanagement-Systeme: Ein Leitfaden für Product Development und Life Cycle Management, Springer-Verlag Berlin Heidelberg, 2001
Schöttner, J.: Produktdatenmanagement in der Fertigungsindustrie: Prinzip, Konzepte, Strategien, Carl Hansa Verlag München Wien, 1999
Burdon, Rodger: PDM: Product Data Management, Resource Publishing USA, 2003
McIntosh, Kenneth G.: Engineering Data Management: A Guide to Successful Implementation, McGraw-Hill Book Company Europe Berkshire England, 1995
Saaksvuori, A.; Immonen, A.: Product Lifecycle Management, Springer-Verlag Berlin, Heidelberg, 2002
Ijioui, R.; Emmerich, H., Ceyp, M.: Stratigies and Tactics in Supply Chain Event Management, Springer Verlag Berlin Heidelberg, 2008
Kulkarni, S.; Sharma, A.: Supply Chain Management: Creating Linkages for Faster Business Turnoround, Tata McGraw Hill Education Private Limited, 2004

Production Planning and Control

Inhalte

Within the lecture "Production Planning and Control" (PPC) methodological and organizational measures as well as models of the PPC are discussed. These aspects will be combined with fundamental factors and trends affecting production companies and their production. The aim is to provide the basis for assessing PPC. In addition, the processes upstream and downstream of the production process have an appropriate view in order to be able to classify the interfaces and influencing variables to production in general and PPC in particular.

The following topics are discussed:
- Product development
- Basics of PPS models with push and pull production
- Production program planning
- Forecasting
- MRP
- Lot size optimization and warehouse management
- Scheduling and capacity planning
- Production control
- The basics of supply chain management concepts

Literatur

Muschkiet , M.: Production Planning and Control, script of lecture

Modul	**TCM-340: Technical Textiles**
Sprache	Englisch
Verantwortlich	Prof. Dr. Anne Schwarz-Pfeiffer
Arbeitsbelastung	SWS 4 ECTS 5 60h Präsenz 43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien) 22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Manufacturing and Application of Technical Textiles 1	2	2	2	0	0	0	5
Lehrende/r:	Prof. Dr. Schwarz-Pfeiffer, Anne							
Voraussetzung:								
Bezeichnung:	Manufacturing and Application of Technical Textiles 2	2	3	2	0	0	0	5
Lehrende/r:	Lehrbeauftragte							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-340	Technical Texiles	Pr	Portfolioarbeit

Anmerkung

Übergreifende Modulziele

Upon successful completion of the course students have a thorough and extensive expertise in developing and manufacturing technical textiles.
They overlook the materials and application fields of technical textiles.
For selected materials, students can analyze application scenarios and identify required properties of textile materials, and thus develop a specification list of technical textile products.

Manufacturing and Application of Technical Textiles 1

Inhalte

- Technical fibre and yarn production
  - Production
  - Characteristics
  - Application fields
- Production of knitted, woven and braided structures and nonwovens for technical applications
  - Technologies
  - Textile properties
  - Application areas
- Finishing of technical textiles
- Pattern making and confectioning of technical textiles
  - Sewing
  - Glueing
  - Welding
- Final products and their application scenarios

Literatur

Editors: A. Richard Horrocks Subhash C. Anand, Handbook of Technical Textiles; 1st Edition; Woodhead Publishing, Cambridge, 2000
Gries, Veit, Wulfhorst: Textile Fertigungsverfahren - Eine Einführung , 2. Auflage, Hanser Verlag, München, 2014
Alagirusamy: Das, Technical Textile Yarns, Woodhead Publishing, Cambridge, 2010
Gulrajani: Advances in the Dyeing and Finishing of Technical Textiles

Manufacturing and Application of Technical Textiles 2

Inhalte

Car Technology
- Airbags
- Seat belts
- Tires
- Car interior
  - Seat covers
  - Head liner and door casings
  - Mouldings
    - Historical development
    - Fibers and processes in production
    - Components
    - Requirements and test methods

Architectural Textiles
- Historical development
- Fibers, fabrics, coatings
- Membrane components
- Architectural structures
- Properties
- Assembly

Geotextiles
- Historical development
- Definition of membranes
- Membrane functions
  - Mechanical
  - Hydraulical
- Membrane duties
  - Separation
  - Filtration
  - Drainage
  - Reinforcemnet
  - Erosion control
  - Sealing
  - Protection

Literatur

Editors: A. Richard Horrocks Subhash C. Anand, Handbook of Technical Textiles; 1st Edition; Woodhead Publishing, Cambridge, 2000
Gries, Veit, Wulfhorst: Textile Fertigungsverfahren - Eine Einführung , 2. Auflage, Hanser Verlag, München, 2014
Alagirusamy: Das, Technical Textile Yarns, Woodhead Publishing, Cambridge, 2010
Gulrajani: Advances in the Dyeing and Finishing of Technical Textiles

Modul	**TCM-350: Fabric Production**
Sprache	Englisch
Verantwortlich	Prof. Dr. Alexander Büsgen
Arbeitsbelastung	SWS 4 ECTS 5 60h Präsenz 43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien) 22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Weaving Processes	2	2	2	0	0	0	5
Lehrende/r:	Prof. Dr. Büsgen, Alexander							
Voraussetzung:								
Bezeichnung:	Narrow Fabrics	2	3	2	0	0	0	5
Lehrende/r:	Prof. Dr. Beer, Mathias							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-350	Fabric Production	Pr	Klausur o. Online

Anmerkung

Übergreifende Modulziele

Fabric Production is guiding students into detailed steps and processes for manufacturing of broad woven products and narrow fabrics.

WEAVING PROCESSES
Students have well-grounded knowledge about all steps to manufacture a woven fabric. They are able to list and to explain all preparation processes, as well as all weaving machine functions like weft insertion, shedding, take-up. They can balance the advantages and disadvantages of all different process steps and they know the use of these methods in regard to used yarn material requirements and resulting quality of fabrics. Students are able to calculate and design woven fabrics, in particular to calculate fabric areal resp. linear weight, cover factor and time of production.

NARROW FABRICS
What
The students can analyze narrow fabric structures to such an extent that they can reliably differentiate between different manufacturing processes and specific machine technology based on their knowledge of the individual processes and they can recognize, justify and evaluate the structures used within different product applications.

With what
To determine the narrow fabric structures, the students use their knowledge of the production processes as well as of the respective process parameters and machine specific options.

What for
With the knowledge of the production processes and process parameters, the students can specifically select suitable narrow fabric structures for product applications and independently select or develop suitable materials.

Weaving Processes

Inhalte

1. Introduction, History
2. Winding
3. Twisting
4. Warping, Sectional Warping
5. Sizing
6. Drawing-in, Set-up
7. Shuttle Weft Insertion
8. Projectile Weft Insertion
9. Rapier Weft Insertion
10. Air-jet Weft Insertion
11. Shedding
12. Warp Let-off, Taking-up
13. Temples
14. Selvages

Calculation:
Fabric areal weight, yarn material requirement, time of production, weave coefficient/tightness Factor, cover factor

Literatur

Adanur, S.:
Handbook of Weaving, Technomic Publishing Company, Lancaster PA 2001
Ormerod, A., Sondhelm, W.:
Weaving - Technology and Operations, The Textile Institute, Manchester 1996
Mohammed, Mansour:
Weaving: Conversion of Yarns to Fabric, Merrow Verlag, 1982
McGreith, Dan J.:
Weavers Handbook of Textile Calculations, Caroline Academic Press, Durham, North Carolina/USA, 2001
Booth, John Edward:
Textile Mathematics, Volume Three, p. 450 - 454, 1977, ISBN 090073924X

Narrow Fabrics

Inhalte

- Introduction to and Definition of Narrow Fabrics
- Overview about narrow Fabric Structures and Processes

- Small circular weft knitting
  - Machine Technology and Process
  - Patterning Options
  - Product Application
- Narrow warp knitting
  - Machine Technology and Process
  - Patterning Options
  - Product Application
- Narrow weaving
  - Machine Technology and Process
  - Patterning Options
  - Product Application
- Braiding
  - Machine Technology and Process
  - Patterning Options
  - Product Application

Within the course, exercise opportunities for active participation are offered with which bonus points can be achieved for the exam.

Literatur

Beer, M.: Narrow Fabrics - Digital Lecture/Learning contents on the online platform Moodle, 2020
Weber, M. O.; Weber, K.-P.: Wirkerei und Strickerei, dfv Fachbuch, 2014
Spencer, D. J.: Knitting technology, Woodhead, 2001
Gries, T.; Veit, D; Wulfhorst, B.: Textile Fertigungsverfahren, Hanser, 2015
Kyosev, Y., Braiding technology for textiles, Woodhead Publishing, 2014
Kyosev, Y., (Ed.), Advances in the braiding technology, Woodhead Publishing, 2016
Essig, E., Nadel-Bandwebtechnik, Jakob Müller Institute of Narrow Fabrics, 2005
Kipp, H.-W.: Bandwebtechnik, JTM-Stiftung, Frick (Hrsg.), Verlag Sauerländer, Frankfurt a.M. 1998
Engels, H.: Flechttechnologie - Schmucktextilien - Technische Textilien, Arbeitgeberkreis Gesamttextil/Industrieverband Deutscher Bandweber und Flechter e.V. (Hrsg.) Eschborn, 1996
Melliand Band- und Flechtindustrie / Euroseil Deutsche Seilerzeitung, Fachzeitschrift, Erscheinungsweise: vierteljährlich
Verlag Melliand Textilberichte, Deutscher Fachverlag GmbH
Atkins and Pearce Handbook of Industrial Braiding, F. Ko, C. Pastore, and A. Head, Atkins and Pearce, Covington KY, October, 1989
H A McKenna, J W S Hearle, N O'Hear, Handbook of fibre rope technology, Woodhead Publishing Limited

Modul	**TCM-360: Textile Products**
Sprache	Englisch
Verantwortlich	Prof. Andrea Rieschel
Arbeitsbelastung	SWS 4 ECTS 5 60h Präsenz 43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien) 22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Home Textiles	2	3	2	0	0	0	4
Lehrende/r:	Prof. Rieschel, Andrea							
Voraussetzung:	Weaving							
Bezeichnung:	Advanced Textile Products	2	3	2	0	0	0	4
Lehrende/r:	Prof. Rieschel, Andrea							
Voraussetzung:	Weaving							

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-360	Textile Products	Pr	Klausur

Anmerkung

Übergreifende Modulziele

The lecture "Textile Products" deals with knowledges of fabrics for clothing and home textiles. The participants are able to recognize and analyse high class fabrics for clothing, recognize characteristics and risks of quality and assign them to their application. Analysis and assessment is practiced on basis of examples. Further technical construction and calculation of woven fabrics build a main part. The participants are enabled to produce a woven fabric according to specific requirements and to calculate all necessary production data like weavenotation, fabric balance, cover factor, weavingmachine arrangements, material calculation, and calculation of fabric area weight. Further the students work with the technology of multilayer and pile fabrics, carpet production and their typical qualities. The students are able to realize own construction principals. Analysis and assessment is practiced on basis of examples. A main part builds the special production process and machines of pile fabrics and carpets.

Home Textiles

Inhalte

In the lecture "Home Textiles" the students learn knowledge for special types of fabrics used in the sector of home textiles.

- Process of carpet production
- Wilton/ Brüssel, Aixminster
- Tufting
- Production upolstery and decoration fabrics
- Double layer
- "Scherli" fabrics
- Pile fabrics
- Cloquet fabrics
- Terry fabrics

Literatur

Prof. Dipl-Ing. A. Rieschel: Script of lecture, Hochschule Niederrhein, Mönchengladbach 2015
Wilhelm Artz, Heimtextilien, Schiele & Schön Verlag, Berlin, 1970
Suzanne Trocmé, Stoffe, Haupt Verlag, Bern, 2003
Martin Kienbaum, Bindungstechnik der Gewebe II und III, Schiele & Schön Verlag, 1996
Fischer/ Gürke-Lang/ Textile Bodenbeläge, F.C. Müller Verlag, Heidelberg, 2000
Jack Lenor Larsen, Material Wealth, Abbeville Press, New York, 1989

Advanced Textile Products

Inhalte

Fundamentals in construction and quality of fabrics for clothing:
- weavenotation
- warp-/ weft count
- yarns, material
- fabric balance
- fabric analysis

Characteristics of fabrics
- construction
- material and blends
- comfort in wear, care properties

- Application of fabrics
- Calculation of fabric area weight
- Properties of woven fabrics
- Quality assessment
- Calculation of fabric construction and cover factor

Literatur

Prof. Dipl-Ing. A. Rieschel: Script of lecture, Hochschule Niederrhein, Mönchengladbach 2015
Grosicki, Z.: Watson's Advanced Textile Design, Newnes-Butterworths, London/Boston 1977
Robinson A.T.C., Marks R., Woven Cloth Construction, The Textile Institute, 1967
Adanur, S.: Handbook of Weaving, Technomic Publ. Company, Lancaster PA 2001
Ormerod A., Sondhelm, W.: Weaving - technology and operations, The Textile Institute, Manchester 1995

Modul **TCM-370: Design Theory**

Sprache Englisch
Verantwortlich Prof. Dr. Marina-Elena Wachs
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Design Theory	2	2	2	0	0	0	4
Lehrende/r:	Prof. Dr. Wachs, Marina-Elena							
Voraussetzung:								
Bezeichnung:	Colour Theory	2	3	2	0	0	0	4
Lehrende/r:	Prof. Dr. Wachs, Marina-Elena							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-370	Design Theory	Pr	Klausur

Anmerkung

Übergreifende Modulziele

Borrowing the term from the English language the German Bauhaus formed our modern understanding of design. In the narrow and traditional sense of the word, design refers to an artistic form of industrial products and commodities which are designed appropriately to their material and use. Furthermore and in a more general sense, the term design refers to a concept designed to improve everyday life and industrial life. The latest definitions of designs are multifarious and are partly still developing. The word design is also being used in different new context, like for example of software-, skin- , and web design as well as since the 1980s for design management. In this context, design refers most often to the development of a project and its quality management. Hence, the students of Textile- and Clothing Management will encounter at least different areas of design during their studies which are dedicated to textile and fashion design in the traditional and professional sense of the word.
This involves the knowledge of history, theory and the developing of design concepts. The students will be able to understand the basic laws of visual perception and design and assess their professional applications.
The students know design dimensions and are able to differentiate design in its various dimensions: historical, aesthetic, psychological, product specific, process-oriented etc.
They have basic knowledge in the area of design processes and design methods and they are able to communicate respecting design contents in its correct technical language.
The seminar design theory and colour theory stands in relationship.
The students should know and to be able to analyse the determining factors of the colours in order to categorise them into different colour systems and to develop applicable criteria of colour evaluation which is important to read the symbolic meaning of design products. Beginning with the conditions within the laws of physics, light and colour and with different systems of mixing colour will be introduced. The perception of colour will be explained within the following categories: as the biological, physiological process of seeing and as the psychological process of perception. Subjective and objectifying perception will be discussed as a part of the phenomenology of perception as well as a part of cultural historical condition. Examples of colour design in the applied and fine arts will be examined and discussed.
The last phase of the lectures debates the cultural and historical conditions and forms of aesthetic perception. The lecture will be completed with practical work according to the theory of colour by Johannes Itten, which gives the students the possibility to analyse, to categorise and to evaluate determining factors in design applications. The students will use the knowledge of Gestalt parameters to communicate fashion - from point of view of creating info graphics until using graphical design elements and -laws of perception for exercise of transfer: to support marketing and promotion campaigns in the textile and clothing industries. Furthermore a design theoretical based consciousness for sustainable design products will be set the basics for on going seminars in higher semesters like fashion theory and multidimensional design as well for the master program.

Design Theory

Inhalte

- Introduction: What is Design?, What is good design? What is green design? -
- What about green washing? and the responsibility of designer and design manager?
- Design history and the benefit for innovative design for the future, Design Trends as determining factor - design strategies and unique selling points.
- Perception and effects of CI and CD in three-dimensional ways, CF and functions of CF
- Exercises: Process of Design, Interaction Design, Learning about material history (Industrialisation...) for tomorrow
- Design Driven Innovation and other methods of design
- Design Management in Design - especially Textiles Design
- Theory of Design versus Sciences of Design
- Scientific working in design, research and documentation in design
- New materials, new methods, transfer
- Interdisciplinary view on other cooperating disciplines
- Intercultural perspective of design codes - the German Look compared to other country looks.
- Design history of product design with a great holistic view
- German Product Design in History and Organs in Design (Peter Behrens, Dieter Rams, Deutsche Werkbund, Rat für Formgebung, DGTF a.o.)
- Design Seals and Awards (IF Design, Red Dot Design)
- International Awards and Fashion/ Textile-Industry in case of sustainability
- Design medias and The Medium is The Message (Marshall McLuhan)
- Design is communicating, Transfer with exercises: as fashion journalist, fashion expert
- Graphic Design as tool for design manager - Info graphics to storytelling
- Visits of fairs - TechTextil Frankfurt, Orgatec Fair cologne, museums, DMI ...?
it is up to the students interest and engagement
- Looking back on the seminar to prepare the examination - e.g. with the help of an exercise to Corporate Textiles I: Corporate Fashion - Design a Unisex-T-Shirt: 1. Looking back at the seminar: what is good design - how to communicate design expertise, 2. CI and CC of the University HN Fb 07, 3. New smart textiles 4. a claim to promote the textile and fashion competence, documentation and arguments/statement)

Literatur

Selection of Literature: (please see the handset at the library at Mg)
English literature:
Conran Octopus and Design Museum, 2010, Fifty Dresses that changed the world, Octopusbooks UK.
Cosgrave, Bronwyn, 2000, The complete history of Costume & Fashion - form ancient egypt tot he present day, Checkmark Books, UK.
Gale, Colin and Kaur, Jasbir, 2002, The Textile Book, Oxford/New York: Berg.
Lee, Suzanne, 2005, Fashioning the Future - Tomorrow´s Wardrobe, London: Thames & Hudson.
McQuaid, Matilda, 2005, Extreme Textiles. Designing for high performance, New York: Smithsonian Instiution in association with Cooper-Hewitt, National Design Museum.
Morrison, Jasper und Fukasawa, Naoto, 2007, Super Normal - Sensations of the Ordinary, Lars Müller Publishers.
O´Mahony, Marie und Sarah E. Braddock, 2002 Sportstech, London: Thames and Hudson.
Reed, Paula, 2012, Fifty Fashion Looks that changed the 1970s, Octopusbooks UK.
Sennett, Richard, 2008, The Craftsman, Yale University Press.
Zwimpfer, Moritz, 2001, 2d visual perception, Zürich: Niggli (german/english).

Literature Francaise:
Barthes, Roland, 1967, La Système de la Mode, Paris: Edition du Seuil.
Bordet, Pascale, 2010, cahiers secrets d'une costumière de théatre, HC editions.

Jean Paul Gaultier, 2015, Katalog zur Ausstellung in Montréal, Kanada.

Barthes, Roland, 1970 (1967), Die Sprache der Mode, edition suhrkamp, 2. Aufl., Frankfurt am Main: Suhrkamp.
Böhn, Max von, 1986 (1976), Die Mode - Eine Kulturgeschichte vom Mittelalter bis zum Barock (Bd.1), 3. Überarbeitete Auflage von Ingrid Loschek, München: Bruckmann.
Böhn, Max von, 1986 (1976), Die Mode - Eine Kulturgeschichte Barock vom bis zum Jugendstil (Bd.2), 3. Überarbeitete Auflage von Ingrid Loschek, München: Bruckmann.
Eco, Umberto, 2002 (9.Aufl.), Wie man eine wissenschaftliche Abschlussarbeit schreibt, Heidelberg: C.F. Müller Verlag.
Garner, Philipp, 1996, sixties design, Köln: Taschen Verlag.
Heyden, A. von, Die Tracht der Kulturvölker Europas, vom Zeitalter Homers bis zum Beginne des XIX. Jahrhunderts, 1987: Reprint von Ausgabe 1889 Seemann Verlag, nach dem Exemplar der Universitätsbibliothek Leipzig, Wiesbaden: vma-Vertriebsgesellschaft.
Knecht, Petra (Hg.), 2003, Funktionstextilien. High-Tech-Produkte bei Bekleidung und Heimtextilien, Grundlagen-Vermarktungskonzepte-Verkaufsargumente, F a M.: Deutscher Fachverlag.
Krause, Giesela /Lenning, Gertrud, 2010, Kleine Kostümkunde, Schiele & Schön.
Loschek, Ingrid, 1987, Reclams Mode- und Kostümlexikon, Stuttgart: Philipp Reclam.
Loschek, Ingrid,2007, Wann ist Mode, Berlin: Reimer.
Lowack, Charlotte, 2009, Modekunde - Kleines Arbeits- und Bildbuch, HH: Handwerk + Technik.
Müller, Ulrike, 2009, Bauhaus-Frauen - Meisterinnen in Kunst, Handwerk und Design, Elisabeth Sandmann Verlag.
Mundt, Barbara, 1998, Architekten als Designer, Beispiel in Berlin, München: Hirmer.
O´Mahony, Marie und Sarah E. Braddock, 2002, Sportlook- Mode im Sport und Sport in der Mode, Material-Design-Trends, München: Stiebner.
Targariello, Maria Luisa, 2014, Masters of Fashion, Die bedeutendsten Modeschöpfer im Portrait, White Star Verlag.
Rübel, Dietmar u.a. (Hg.), Materialästhetik-Quellentexte zu Kunst, Design, Architektur, Berlin: Reimer.
Sennett, Richard, 2008, Handwerk, Berlin: Berlin Verlag.
Wachs, Marina-Elena, 2008, Material Mind-Neue Materialien in Design, Kunst und Architektur, Hamburg: Dr. Kovac Verlag.
Wortmann-Weltge, Sigrid, 2008, bauhaus-textilien - kunst und künstlerinnen der webwerkstatt, Edition Stemmle.

Others:
Form, Wallpaper, Frame, Textil Wirtschaft
VOGUE und Hapers Bazaar, GQ
Brüderlin, Markus et al, 2008, Interieur/Exterieur: Living in Art, , Kunstmuseum Wolfsburg.
Brüderlin, Markus, 2013, Kunst & Textil, Kunsmuseum Wolfsburg/Staatsgalerie Stuttgart, Hatje Cantz.
Relevant blogs, movies and websites will be announced at each lesson of the seminar.

Colour Theory

Inhalte

- Introduction: What is Colour?, What is Light?
- What about design trends in colouring your life
- Physical and psychological conditions to see colour and - coloured objects
- Perception and effects of light-surface-design object in three-dimensional ways
- Analyse determining factors of colours in order to categorise them into different colour systems and to develop applicable criteria of
- Colour systems and colour evaluation.
- Law of perception and creation_ of design
- Applications, - Media of Textiles and of Art, Surfaces, Light and Media (like photography)
- Pre conditional phase and cultural imprint during the childhood to look on design objects
- Function of the eye
- Colour contrasts by Johannes Itten, the colour circle - how to create mixed colours
- Aesthetic values, - cultural codes, design roots
- Colour systems in practise (RAL, CNS, Pantone)
- Colour and material archive /labs.
- Colour in info graphic to create some
- Exercises: communicate with the help of colour in analogue and digital media
- Design Driven Innovation and other methods of design
- Colour Design Management in Design (for textile prints)
- Exercises: research in material labs, colour labs and with field studies with interviews of textile experts
- Design is communicating, Transfer with exercises: as fashion journalist, fashion expert
- Graphic Design as tool for design manager - Info graphics to storytelling
- Visits of fairs and trend boards and museums

it is up to the students interest and engagement

- Looking back on the seminar to prepare the examination - e.g. with the help of an exercise to fashioning the coloured future in Textiles I: Design a pattern - for a Unisex-T-Shirt: 1. Looking back at the seminar: how to communicate with the help of colour - special effects (Razzel Dazzel) - design expertise, 2. CC of the University HN Fb 07, 3. New smart textiles with the help of new colouring methods in (3-D) printing4. a claim to promote the textile and fashion competence, documentation and arguments/statement)

Literatur

Selection of Literature: (please see the handset at the library at Mg)

Arnheim, Rudolf: "Art and Visual Perception", "A Psychology of the Creative Eye", The New Version, University of California Press, Berkely, Los Angeles, London 1997
Brandi, Ulrike und Binet, Helen und Buntschoten, Roul, 2002, Das Geheimnis des Schattens - Licht und Schatten in der Architektur, The scret of the shadow - Light and Shadow in Architecture, Publikation zur gleichnamigen Ausstellung, DAM Frankfurt am Main.
Bürdek, Bernhard E. 2005 Design - History, theory and practice of product design, Birkhäuser.
Daucher, Hans:"Künstlerisches und rationalisiertes Sehen", "Gesetzte des Wahrnehmens und Gestaltens", Ehrenwirt Verlag, München, 1967
Gage, John, 1999, Color and meaning, Berkley: University of Carlifornia Press.
Harrison, John, 2001, Synaesthesia - the Strangest Thing, Oxford University Presse.
Hauffe, Thomas, 1999, Design, Laurence King Publishing.
Itten, Johannes. "The Elements of Color", "A Treatise on the Color System of Johannes Itten Based on His Book The Art Of Color" John Wiley & Sons, INC., New York, Chichester, Weinheim, Brisbane, Singapore, Toronto, Copyright 1970 and portions of the work 1961 by Otto Maier Verlag, Ravensburg
Kröger, Annette u.a.(Hg.), 1994, Gegenstände der Zukunft - Objects for the future, Stuttgart: Edition Axel Menges.

Lee, Suzanne, 2005, Fashioning the Future - Tomorrow´s Wardrobe, London: Thames & Hudson.
McQuaid, Matilda, 2005, Extreme Textiles. Designing for high performance, New York: Smithsonian Instiution in association with Cooper-Hewitt, National Design Museum.
Morrison, Jasper und Fukasawa, Naoto, 2007, Super Normal - Sensations of the Ordinary, Lars Müller Publishers.
O´Mahony, Marie und Sarah E. Braddock, 2002 Sportstech, London: Thames and Hudson.
Wachs, Marina-Elena und Bendt, Ellen, 2013, Nachhaltiges Textiles Design / Sustainable Textile Design, Hamburg Schaff Verlag.
Wachs, Marina-Elena 2013: You have to be inspired by..., in: Leydecker, Silvia, 2013 Designing Interior Architecture: Concept, Typology, Material, Construction, Birkhäuser Verlag, Mai 2013.
Wachs, Marina-Elena und Bendt, Ellen, 2015: The German Look at Design - advanced TEXTILE solutions, Hochschule Niederrhein.
Zwimpfer Moritz, 1989, Color: Light, Sight, Sense, Schiffer Pub. Co.
Zwimpfer, Moritz, 2006, Colorondo - A game with 80 colors, Niggli Verlag.
Others:
GRID - Magazine for Graphic and Industrial Design, No 2 2013, München: Institut für Internationale Architektur Dokumentation.
DMI-Trendbooks
AD, Frame, Page

Modul **TCM-380: Fashion Design**

Sprache Englisch
Verantwortlich Prof. Dr. Marina-Elena Wachs
Arbeitsbelastung SWS 4 ECTS 5
60h Präsenz
43h Vor- und Nachbereitung (Arbeitsblätter, Literaturstudium, Tutorien)
22h Prüfungsvorbereitung

Lehrveranstaltungen

		SWS	KP	V	SL	Ü	P	Sem.
Bezeichnung:	Multidimensional Design	2	2	2	0	0	0	5
Lehrende/r:	Lehrbeauftragte							
Voraussetzung:								
Bezeichnung:	Fashion Theory	2	3	2	0	0	0	5
Lehrende/r:	Prof. Dr. Wachs, Marina-Elena							
Voraussetzung:								

Prüfungen

Code-Nr.	Bezeichnung	Art	Prüfungsform
TCM-380	Fashion Design	Pr	Klausur

Anmerkung

Übergreifende Modulziele

The term fashion design stands in relationship to medium of the object: fashion is communicating with different media. The students will reflect the relation about fashion design and multidimensional design, that needs consciousness about the power of three dimensional parameters in creating and communication the message. Symbolic functions of design are equal analysed than "the Look" of fashion.
In the basic lecture design theory and -history (fourth semester) you were introduced to essential aspects about "terms and definitions" of design theory, e.g. artefact, semantics of products, material and cultural codes related to question about: "What is design?, What is good design? What is the difference between product design and fashion design, the importance of CI and CD and CF=Corporate Fashion within design management."
"The making of design" and the design process we regarded in historian sources of other sections (Max Bill and other artists and architects).
In the following lectures on "fashion theory" and "multidimensional design" we will look at the perspective on fashion as well as on essential design skills of seeing and visual perception, take the perspective on fashion from a historical, psychological and sociological perspective with regard to elemental parameters to create fashion; the students will compare fashion with art and sciences to look at the meaning of dress codes, of clothes and fashion. Multidimensional design deals with design problems in the field of textile and clothing design, that means it provides the elements and principles in 2-D and 3-D Design. Further, it is to analyse the human behaviour of "wearing" clothes and look on the relationship to industry and society and hot to build a fashion code with the help of different medias.

Furthermore and in a more general sense, the term fashion design refers to a concept designed to improve everyday life and industrial life. The latest definitions of designs are multifarious and are partly still developing. Hence, the students of Textile- and Clothing Management will encounter at least different areas of design during their studies, which is dedicated to textile and fashion design in the traditional and professional sense of the word.
This involves the knowledge of history, theory and the developing of fashion design concepts. The students will be able to understand the basic laws of visual perception and fashion / design and assess their professional applications in the case of managing fashion and fashion retail with different media.

The multidisciplinary lecture offers a survey of the essential cultural theories investigating fashion as an integral part of human culture. It includes philosophical, historical, economic, sociological, and psychological theories as well as communication theory, all of which deal with different aspects of fashion. The students will discuss texts and images relating to the theories.
The students learn to identify and analyse essential and new fashion theories, which explain the phenomenon and process of fashion. They will be able to deliver examples and apply the theories to new situations. At the same time, the students will improve their critical and communicative abilities when they formulate and present their own opinion in class discussions and term papers.
The students know fashion design dimensions and are able to distinguish design in its various dimensions: historical, aesthetic, psychological, product specific, process-oriented.

Multidimensional Design

Inhalte

Multidimensional Design puts fashion in context with elements and principles of design. The elemental parameters a designer employs provide different visual impact. The knowledge of these components also assists in recognizing well-designed, marketable garments and in analyzing why they work. The course of lectures on multidimensional design is divided into two major sections:

Section 1 - Design elements
- Point & line
- Shape & volume
- Texture
- Space
- Motion
- Value

Section 2 - Design principles
- Harmony
- Emphasis
- Proportion
- Balance
- Rhythm

Literatur

Arnheim, Rudolf. Art and visual perception. The psychology of the creative eye. Los Angeles: University of California Press 1997
Lauer, David. Pentak, Stephan. Design Basics. London: Thomson Learning 1988
Pipes, Alan. Foundations of Art and Design, London: Laurence King Publishing 2003
Stecker, Pamela. The Fashion Design Manual 2. Australia, December 2009
Tate, Sharon Lee. Inside Fashion Design. New Jersey: Pearson Education 2004
Wong, Wucius. Principles of Form and Design. New York: John Wiley & Sons 1993
Arnheim, Rudolf. Kunst und Sehen. New York: De Gruyter 2000
Itten, Johannes. Design and Form. The basic course at the Bauhaus and later. Ravensburg: Otto Maier Verlag 1975
Bleckwenn, Ruth; Schwarze, Beate. Gestaltungslehre. Formenlehre. Hamburg: Verlag Handwerk und Technik 2010
Frutiger, Adrian: Der Mensch und seine Zeichen, Paris, 1978
Klee, Paul. Das bildnerische Denken. Basel: Verlag Schwabe 2013

Fashion Theory

Inhalte

- Introduction: What is Fashion Theory - categories, terms, selection of experts literature!
- What is style? What are styles? The Fashion System in relevance to the thesis of Roland Barthes, Ingrid Loschek and other Fashion sociological views like Diane Crane and a "fashion-theoretical" view by Marina-E. Wachs
- Styles in history and today - trends
- Fashion History and "Fashion Behaviour" - terms (field study: the relevance of the corset)
- The influence of technical development - industrialisation and the consequences regarding to social changes. Classes and Fashion - working class to upper class...
(influence of "espionage" and mobility to handcraft and of fashion industry- case study GB - Germany - Netherlands.)
- The influence of Art and Architecture on Fashion - Question of form, innovation and >Zeitgeist< - spirit of the time.
- Political impact like the World War and the influence of changing forms - materials - production processes - management and marketing.
- New materials, new design methods, transfer of other disciplines in Fashion
- Today: questions of consumer demands (e.g. >consumers need for uniqueness< and neuro- marketing...) on technical aspects in fashion and sustainability, smart textiles and others.
- Economical influence like system of sustainable handling, - production
-"sustainable thinking" to "fashion thinking" (Wachs)
- >The medium is the message< (Marshall McLuhan, 1976) to Roland Barthes >Fashion System< (1965)
- Fashion and photography - "The Look" (case study Peter Lindbergh)
- Perception of fashion codes, e.g. on the street, corporate fashion, different media
- Sociological basics: Sennett to Simmel and Loschek.
- Influence of fairs and trends on fashionable forms and social behaviour on "la mode" /Couture and >ready-to-wear-clothing<
- The gender question in enterprises and the question about "inclusion" in Fashion
- Fashion and communication - graphical impact in fashion (generative fashion) and in telling the best story to sell fashion (as journalist, as textile expert, as manager)
- Exercises: practically and transdisciplinary: based on fashion in different jobs
- Exercises: scientific working / artistic research (fifth semester!)
- Info: literature, fairs, trade magazines, blogs, labs, organs of fashion studies.
- Offers: Visit and "Enterprise: Start-up?" -lecture by guest
- Fashion Theory to latest fashion research in Fashion Studies (Heike Jenss, 2015 et al)

Literatur

Selection of Literature: (please notice new books at the handset at the library in MG)
Barthes, Roland, 1967, Système de la Mode, Éditions du Seuil, Paris.
Barthes, Roland, 1983, The Fashion System. Trans. Matthew Ward and Richard Howard, New York: Hill and Wang.
Boehn, Max von, 1986 (1976), Die Mode - Eine Kulturgeschichte vom Mittelalter bis zum Barock (Bd.1), 3. Überarbeitete Auflage von Ingrid Loschek, München: Bruckmann.
Boehn, Max von, 1986 (1976), Die Mode - Eine Kulturgeschichte Barock vom bis zum Jugendstil (Bd.2), 3. Überarbeitete Auflage von Ingrid Loschek, München: Bruckmann.
Bürdek, Bernhard E. 2005 Design - History, theory and practice of product design, Birkhäuser.
Crane, Diana, 2000, Fashion and its social agendas - Class, Gender And Identity in Clothing, Chicago und London: The University of Chicago Press. (BIB MG)
Fletcher, Kate, 2008, Sustainable Fashion & Textiles, Design Journeys, London: earthcan.
Jenss, Heike (Hrsg.), 2015, Fashion Studies - Research Methods, Sites and Practices, Bloomsbury.
Kaiser, Susan B., 2012, Fashion and Cultural Studies, Bloomsberg.
Krippendorf, Klaus, 2006, the semantic turn - a new foundation for design, CRC Press and Taylor & Francis

Group.
Loschek, Ingrid, Wann ist Mode, 2007, Berlin: Reimer Verlag.
Samesch, Stéphanie (Hg.), u.a., Corporate Identity und Corporate Design, AvEdition.
Sennett, Richard, 2008, handcraft, Pinguin Book or Berlin.
Vincent, Susan J., 2009, The anatomy of Fashion - Dressing the Body from the Renaissance to today, NY and Oxford: Berg.

Others:
Baudrillard, Jean, 1991, (1968), Das System der Dinge. Über unser Verhältnis zu den alltäglichen Gegenständen, Reihe Campus, Frankfurt am Main: Campus
Bourdieu, Pierre, et Delsaut, Yvette, 1975, Le Couturier et sa griffe: Contribution à une théorie de la magie
Simmel, Georg, 1995, Philosophie der Mode, Die Religion, Kant und Goethe, Schopenhauer und Nietzsche, Gesamtausgabe Bd.10, Frankfurt am Main, Suhrkamp.
Thun, Matteo, 1996, Appunti a latere - Zur Komplexität der Objektwelt, in: Stephan, Andreas (Hg.), Volker Albus u.a. - Design - Texte zur Theorie und Praxis, Schriftenreihe der Staatlichen Hochschule für Gestaltung Karlsruhe, Karlsruhe: Cantz Verlag.
Wachs, Marina-Elena and Weinlich, Dorothee, 2011 (Okt. 2011), Promovieren im Design - ein Kinderspiel? / How to do the PhD in Design - a cakewalk?, Blumhardt Verlag.