

# Stuttgart Media University

## Course Catalog Integrated Product Design

Course Title	<b>Design Project 1</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180310a
Lecturers name	Prof. Barbara Scholz / Prof. Burkhard Fritz / Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	10
Teaching/learning methodology	Project Presentation
Total workload	300 hours
Contact hours per week	3 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	The design project provides students with the opportunity to explore a given design problem in individual or group work. The project fills the whole semester and may be explored in collaboration with an industrial partner. Students get exposed to different stages of the design process and approach the project from various angles and perspectives. The project culminates in the presentation of the produced products/solutions, which will also be part of a small design show.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- are able to approach design problems from different perspectives.</li> <li>- are able to analyse and describe design problems and tasks.</li> <li>- are able to iteratively develop potential solutions.</li> <li>- are able to develop and build idea models and prototypes.</li> <li>- have learned methods to evaluate and test the developed prototypes.</li> <li>- are able to document and present their own work.</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction and briefing</li> <li>- Introduction to methodological aspects of design</li> <li>- Studio-based work and intermediate presentations</li> <li>- Field trips and individual excursions</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Design Project 2</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180410a
Lecturers name	Prof. Barbara Scholz / Prof. Burkhard Fritz / Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	10
Teaching/learning methodology	Project Presentation
Total workload	300 hours
Contact hours per week	3 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	The design project provides students with the opportunity to explore a given design problem in individual or group work. The project fills the whole semester and may be explored in collaboration with an industrial partner. Students get exposed to different stages of the design process and approach the project from various angles and perspectives. The project culminates in the presentation of the produced products/solutions, which will also be part of a small design show.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- are able to approach design problems from different perspectives.</li> <li>- are able to analyse and describe design problems and tasks.</li> <li>- are able to iteratively develop potential solutions.</li> <li>- are able to develop and build idea models and prototypes.</li> <li>- have learned methods to evaluate and test the developed prototypes.</li> <li>- are able to document and present their own work.</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction and briefing</li> <li>- Introduction to methodological aspects of design</li> <li>- Studio-based work and intermediate presentations</li> <li>- Field trips and individual excursions</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.

Course Catalog  
Integrated Product Design

Course Title	<b>Photography</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180320a
Lecturers name	Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Creative studio based course work with final project presentation
Total workload	120 hours
Contact hours per week	2 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	After the successful participation in this module, students gained a wide spectrum of photography related skills. Firstly, students are informed about theoretical aspects of photography, such as its historical development as well as current developments. Secondly, students are able to evaluate and work with photographic material. Thirdly, students are able to generate their own photographic material – on location as well as in the photo studio. Ultimately, students understand how they can use photography in their own work – for research and analysis purposes as much as for creative and documentation/presentation related work.
Learning outcomes	At the end of the course students have competences in: <ul style="list-style-type: none"> <li>- The history of photography</li> <li>- Analysis of photographic styles and techniques</li> <li>- Theoretical knowledge about photographic technology</li> <li>- Practical knowledge about photographic technology (on location and studio based)</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction</li> <li>- Introduction theoretical course content</li> <li>- Studio-based work and supervision</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Advanced Visualisation Techniques</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180420a
Lecturers name	Prof. Burkhard Fritz
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Creative studio based course work with final project presentation
Total workload	120 hours
Contact hours per week	3 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	After the successful participation in this module, students master design-relevant forms of presentation techniques with different media. Students find their way in the drawing space and can apply the basics of perspective drawing. They can present, discuss and solve formal problems with sketches and drawings. They can visualise, present and document ideas, concepts and drafts by using both analogue and digital means.
Learning outcomes	At the end of the course students have competences in: <ul style="list-style-type: none"> <li>- 1-, 2- and 3-point perspective of rooms and objects</li> <li>- Shadow construction with parallel and point light</li> <li>- Sketching of the basic bodies with chamfer and fillet edges</li> <li>- Basic bodies as a drawing aid and for checking the three-dimensionality.</li> <li>- Combination of the basic bodies to complex spatial shapes.</li> <li>- Syntax of spatial representation based on light, air and colour perspective.</li> <li>- Marker techniques.</li> <li>- Sketching on coloured paper with emphasis on the light and shadow edges.</li> <li>- Deepening of the scribble technique on different objects under consideration of proportions.</li> <li>- Drawing and rendering with graphic tablets (Adobe Photoshop, Autodesk Sketchbook )</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction and briefing</li> <li>- Introduction theoretical course content</li> <li>- Studio-based work and intermediate presentations</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Research Project</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180461a
Lecturers name	Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	10
Teaching/learning methodology	Individual research project with supervisions
Total workload	300 hours
Contact hours per week	2 hours per week
Type of exam	Assessed research paper and research poster
Abstract	The research project allows students to follow their personal interests. In consultation with a supervisor, students choose their individual research topic with the aim to produce a research paper. The research project gets supported by research seminars (see separate course outline) in which students discuss their progress and exchange ideas about topical and methodological aspects of their work. The research project is presented to peers in a poster session at the end of the semester.
Learning outcomes	At the end of the course students: - will have completed their own research project. - will have gathered a variety of methodological and personals skills needed to complete a research project.
Contents/ Indicative syllabus	- Introduction - Individual supervisions - Project presentation
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Scientific Seminar</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180460a
Lecturers name	Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Group seminar with exchange about individual research projects
Total workload	120 hours
Contact hours per week	2 hours per week
Type of exam	Attendance
Abstract	The research seminar supports the individual research projects (see separate course outline). The seminar provides students with a theoretical foundation that enables them to complete their individual research projects. Moreover, the seminar provides students with a community for discussion and exchange of ideas around research in general and design research in particular.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- have an understanding about the foundations of design research as well as research in general.</li> <li>- are familiar with a number of methodologies and methods and are able to compose their own research designs.</li> <li>- are able to present and discuss their own research projects with peers.</li> </ul>
Contents/ Indicative syllabus	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. What is research / what is design research?</li> <li>3. Epistemological foundations</li> <li>4. Methodological foundations I</li> <li>5. Methodological foundations II</li> <li>6. Methods for design research projects I</li> <li>7. Methods for design research projects II</li> </ol> <ul style="list-style-type: none"> <li>- Group discussions and exchange of ideas in parallel to theoretical input</li> </ul>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Advanced Typography</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180412a
Lecturers name	Prof. Barbara Scholz
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Creative studio based course work with final project presentation
Total workload	120 hours
Contact hours per week	3 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	This course provides students with the opportunity to develop advanced skills in using typography in a professional way. Students will learn advanced technical terms of typography and will be exposed to different kinds of typographic approaches and techniques ranging from experimental typography through to the usage in typography in corporate design systems.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- are enabled to choose appropriate typography for different types of media and products.</li> <li>- have developed practical skills in designing logotypes and different media.</li> <li>- will have experimented and played with typography.</li> <li>- have tried what typography may achieve in complex corporate design systems.</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction and briefing</li> <li>- Introduction of theoretical course content</li> <li>- Studio-based work and intermediate presentations</li> <li>- Field trips</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.

# Stuttgart Media University

## Course Catalog Integrated Product Design

Course Title	<b>Creative Printing</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180411a
Lecturers name	Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Creative studio based course work with final project presentation
Total workload	120 hours
Contact hours per week	3 hours per week
Type of exam	Project presentation and assessed course portfolio
Abstract	This course provides students with the opportunity to explore the role of different historical printing techniques in the context of modern day graphic design. Students will design their individual graphic-based products and will produce them by combining traditional and modern day graphic techniques.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- have an understanding of the origin of modern day printing techniques and how these techniques are still relevant for the production of contemporary graphic design.</li> <li>- have developed practical skills in the design and production of graphic products.</li> <li>- have produced their own graphic product without using any visual material generated by others.</li> </ul>
Contents/ Indicative syllabus	<ul style="list-style-type: none"> <li>- Introduction and briefing</li> <li>- Introduction to a variety of printing techniques</li> <li>- Studio-based work and intermediate presentations</li> <li>- Field trips</li> <li>- Final project presentation</li> </ul>
Reading Materials	Will be provided during the course.



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## Course Catalog Integrated Product Design

Course Title	<b>Usability Engineering</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	719442
Lecturers name	Prof. Dr. Gottfried Zimmermann
Teaching language	English
Credits (ECTS)	5
Teaching/learning methodology	Lectures with weekly assignments and a final assessment
Total workload	150 hours
Contact hours per week	4 hours per week
Type of exam	Assessment of course work + an oral exam
Abstract	This course will give an introduction to usability engineering, analysis methods, navigation and information architecture, prototyping, inspection methods and usability guidelines. Students learn to work with user testes and usability metrics. They are introduced to cost-benefit analysis and the usability engineering lifecycle.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- will know the methods of usability engineering, as well as their pros and cons.</li> <li>- are able to autonomously prepare, carry out and document a usability engineering project including all relevant methods.</li> <li>- are able to make statistical statements about user behaviour, including the planning, execution and evaluation of usability tests.</li> <li>- have acquired social skills through teamwork and interacting with subjects in usability tests.</li> </ul>
Contents/ Indicative syllabus	<ol style="list-style-type: none"> <li>1. Introduction to usability engineering</li> <li>2. Analysis methods</li> <li>3. Navigation and information architecture</li> <li>4. Prototyping</li> <li>5. Inspection methods</li> <li>6. Usability guidelines</li> <li>7. User tests</li> <li>8. Usability metrics</li> <li>9. cost-benefit analysis</li> <li>10. Usability engineering lifecycle</li> </ol>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Sustainability and Design</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	180440a
Lecturers name	Prof. Dr. Bernhard Dusch
Teaching language	English
Credits (ECTS)	4
Teaching/learning methodology	Lectures with workshops and a small group project
Total workload	120 hours
Contact hours per week	2 hours per week
Type of exam	Assessed group project and a short exam
Abstract	This course provides a solid understanding of both theoretical and practical aspects of sustainable design. The course starts with an introduction to the concepts of sustainability and sustainable development. This also includes a historical discourse of how the current debates originated. The course continues to focus on the role of design (and in particular the role of the individual designer) in the context of the sustainable development debate.
Learning outcomes	At the end of the course students: <ul style="list-style-type: none"> <li>- have a basic understanding of the major factors influencing the current state of our planet.</li> <li>- have a sound understanding of the origin of the environmental discourse as well as the concepts of sustainability and sustainable development.</li> <li>- are able to independently analyse, frame and discuss sustainability related problems.</li> <li>- understand the role of design in generating but also solving sustainability related problems.</li> <li>- understand their own role as a designer in the context of the sustainability debate.</li> <li>- are able to include sustainability related thinking in their work as designers.</li> </ul>
Contents/ Indicative syllabus	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. The current sate of our planet I</li> <li>3. The current state of our planet II</li> <li>4. Sustainability and Sustainable Development I</li> <li>5. Sustainability and Sustainable Development II</li> <li>6. The development of mainstream industrial design</li> <li>7. The development of alternative design approaches</li> <li>8. Current sustainable design practice</li> <li>9. – 15. Workshops and group project work</li> </ol>
Reading Materials	Will be provided during the course.

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## Course Catalog Integrated Product Design

Course Title	<b>Innovation Management</b>
	Bachelor Level Course (Typically taken during 2 <sup>nd</sup> or 3 <sup>rd</sup> year)
Course No	119610a
Lecturers name	Prof. Dr.-Ing. Joachim Charzinski
Teaching language	English
Credits (ECTS)	5
Teaching/learning methodology	Iterative lecture with workshops
Total workload	150 hours
Contact hours per week	4 hours per week
Type of exam	Written Exam (Case Studies)
Abstract	This course is a practical introduction to innovation management. After discussing basic ideas about innovation, fundamental concepts for managing innovations are introduced (Stage gate process, multi-project management). Creativity technologies for idea management are presented as well as tried out in workshop-mode sessions. Discussions on open innovation, business models and intellectual property rights issues conclude the lecture.
Learning outcomes	After passing this module, students will be able to discover mind barriers and assess risks for existing business. They have tried out several methods for generating new ideas and can decide which method to use in each situation. They can create and analyse business sketches, improve business models, and calculate simple business cases to assess which innovations are promising, and when it is the right time to realise an innovation. They know the concept of a stage gate process and have first practical experience in the methods applied for each of the steps. They can identify patentable inventions and have participated in sketching a patent application.
Contents/ Indicative syllabus	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Innovation Processes and Management</li> <li>3. Tools</li> <li>4. Traps and enemies of innovation</li> <li>5. Open Innovation</li> <li>6. Business Plans</li> <li>7. Prototypes and Demonstrators</li> <li>8. Intellectual Property Rights</li> </ol>
Reading Materials	Will be provided during the course.