

- **Course:**

BAE4194 Product Service Systems 2  
2 SWS, 3 credits, English, professionally qualifying academic level  
Monday: 13:45 - 15:15 in room T2.4.10  
Wednesday: 08:00 - 11:15 in room T2.4.10  
(or alternatively – depending on the development of Covid 19 – in the virtual lecture room  
<https://app.alfaview.com/#/join/alfaview-technik/e3e39c6e-a1f1-4d93-b8c7-9c3bf7561d1c/470a3143-fc60-4bca-aa3b-e6cbe1022f50>)

Further details to be announced via e-learning (sign in and check regularly)
- **Instructor:**

Philipp Doerflinger  
E-Mail: [doerflinger@campaignersnetwork.de](mailto:doerflinger@campaignersnetwork.de) (preferred mode of communication)
- **Overview:**

The course is designed as a capstone project and provides a highly advanced knowledge in Product Service Systems.
- **Prerequisites:**

At least 50 ECTS from section 1 of the study program, successful completion of PSS 1.
- **Learning objectives:**

Product service systems (PSS) have been one major concern of research into sustainable consumption for more than ten years (e.g., Stahel, 1994, Goedkoop et al. 1999, Mont, 2004). Usually, PSS are divided into services providing added value to the product life cycle, such as maintenance and upgrading, services providing enabling platforms for customers, such as renting or leasing, and services providing final results to the customers, such as mobility services or warmth delivery (UNEP, 2002, p. 8f.). Given the offer of products, which are losing their competitive value, companies begin to seek solutions to improve their market position through the inclusion of services. The development of product-service systems (PSS) is a solution that has been discussed by the academia in recent years, resulting in an increasing number of publications. The real situation identified in the existing literature on PSS presents basic characteristics of a PSS, it contains its four main factors: product, service, actors network and infrastructure and presents the similarity of the three types of PSS (product-oriented, use-oriented and results-oriented). The overall objective is to develop knowledge and understanding of scientific research methods and to provide skills to design and accomplish a research project in the domain of product service systems. Goal is to understand the role of product/service strategy, its elements and their interdependences.
- **Content:**

The growing importance of combining products and services (product-service systems, PSS) brings about the need for significant changes in the development processes of companies. The design and implementation of solutions, the so-called product service systems (PSS), takes place in an extended value network consisting of production and service networks of the manufacturer in cooperation with the customer. The companies, thus, face a medium-term challenge to complete the strategic transformation from proper product-oriented manufacturer to customer-oriented full-service providers. In this course practical management support systems for planning, development, configuration and cus-

tomized implementation of PSS will be worked out in an extended value network. In addition, the necessary methods of organizational design and of acquiring the necessary skills are shown. The individual approaches, on one hand, deal with the theoretical foundations and methods for lifecycle management of PSS, on the other hand, they provide case studies of companies that have implemented the concepts in practice.

- **Course topics:**

- PSS Framework
- Real-life case
- Current System Analysis  
Understand better your organisation and current business model as well as market strength and weaknesses
- PSS Design  
Find new service opportunities and build up a concrete idea
- PSS Implementation and Operation  
Know what factors are critical to lead the idea to a success while avoiding the pitfalls

### Contribution to program goals

	Learning Objective	Contribution
6.1	Students show that they are able to work successfully in a team by performing practical tasks.	Students are able to jointly work on a capstone project within a multifaceted assignment that serves as a culminating academic and intellectual experience.

- **Teaching and learning approach**

Participants will produce a Products Service Project by creating specific applications of the strategies introduced in the course, participants will also use different tools and technologies for each strategy. The Project and presentation are due the last week of classes.

- **Exam Requirements**

Basically, the following requirements will be graded each separately, and on that basis an average grade per person will be built by the professor:

- Active general participation during lectures, and especially in brainstormings, workshops, and case studies.
- Individual roles prepared and actively performed in group(s) during workshops and case studies, as defined by and agreed with the professor.
- Individual or group voluntary activities/ presentations, as required by or agreed with the professor – as far as reasonably possible.
- Maximum 2 lectures (90 minutes each) missed during the course. More absence must be agreed with the professor and be compensated.

**Grading, based on exam results:**

'Sehr gut' represents exceptional work, far above average.

'Gut' represents good work, above average.

'Befriedigend' represents average work.

'Ausreichend' represents below average work with considerable shortcomings.  
,Mangelhaft' is just exceptional work in the wrong direction or with unacceptable shortcomings.

- **Course materials:**

- Petri Helo, Angappa Gunasekaran, Anna Rymaszewska, Designing and Managing Industrial Product-Service Systems, Springer 2017
- Vogel-Heuser, B., Lindemann, U. und Reinhart, G. (2014): Innovationsprozesse zyklensorientiert managen: Verzahnte Entwicklung von Produkt-Service Systemen. Vieweg+Teubner: Berlin, Heidelberg.
- Mannweiler, C., Aurich, J.C. und Clement, M.H. (2010): Produkt-Service Systeme: Gestaltung und Realisierung. Springer: Berlin, Heidelberg.
- Spiller, M. et al. (2013): Dienstleistungsmodellierung: Product-Service Systems und Produktivität. Gabler: Wiesbaden.

- Class handouts will be available in the LMS.

- **My teaching philosophy**

In the classes we consider the important concepts, models, principles and phases of strategic and operational management and apply them on a real world situation. I will assist you to develop a self-contained strategic thinking, based on the acquired basic skills, and to evaluate the opportunities and the threats of different strategies and management methods. When you don't understand a learning step, you should pose a question during the lesson. I want to support every student who is committed to take the required knowledge and to pass the exams successfully.

- **Tentative Schedule (changes tba)**

Date	Theme:
<b>Lecture 1&amp;2</b>	Topic Introduction
<b>Lecture 3&amp;4</b>	Interaction and project planning
<b>Lecture 5,6 &amp;7</b>	Highlighting a research project
<b>Lecture 8-14</b>	Research Project Presentations