



## Berufsbegleitender Masterstudiengang „Mobilität und Transport“ (M.Sc.)

### PILOTMODUL ---- Test-Studierende gesucht --- Testphase 2016 kostenfrei --- PILOTMODUL

Institution: <b>Automobilwirtschaft und Industrielle Produktion</b>			
Modulbezeichnung: <b>Orientierung Produktion und Logistik</b>			Modulnr.: <b>(16)</b>
Pflichtform (Pflicht, Wahlpflicht o. Wahl):	Workload: <b>150 h</b> Präsenzzeit: <b>27 h</b> Selbststudium: <b>123 h</b> Anzahl Semester: <b>1</b>	Leistungspunkte: <b>5 LP</b>	Semesterwochenstunden: <b>2 SWS</b>
Lehrveranstaltungen / Oberthemen: <b>Supply Chain Management (Präsenzveranstaltung)</b> <b>Automotive Production (Selbststudium)</b>			Veranstaltungsform <b>Vorlesung</b>
Belegungslogik: <b>Vorlesung Supply Chain Management: donnerstags 16:45 – 18:15 Uhr; Zeitraum: 20.10.2016 – 09.02.2017</b> <b>Vorlesung Automotive Production: (die Inhalte dieser 2. VL müssen im Selbststudium erarbeitet werden; alternativ kann die VL besucht werden dienstags 11:30 – 13:00 Uhr; Zeitraum: 25.10.2016 – 07.02.2017)</b> Voraussetzung für das Modul sind Grundkenntnisse der Betriebswirtschaftslehre, insbesondere Produktions- und Logistikmanagement, sowie des Operations Research und der Statistik auf dem Niveau der Bachelorveranstaltungen des Lehrstuhls. Die Veranstaltung wird nur in Englisch angeboten, sodass entsprechende Englischkenntnisse (Level B2 des GERs (Gemeinsamen Europäischen Referenzrahmens für Sprachen) vorausgesetzt werden.			
Lehrende: <b>Prof. Dr. rer. pol. Thomas Stefan Spengler, Dr. rer. pol. Karsten Kieckhäfer unter Mitwirkung von Christian Thies M.Sc. (Supply Chain Management)</b> <b>Prof. Dr. rer. pol. Thomas Stefan Spengler, Dr. rer. pol. Martin Grunewald unter Mitwirkung von Christian Weckenborg M.Sc. (Automotive Production)</b>			
Qualifikationsziele: <b>After taking this module, the students will have fundamental and comprehensive knowledge about selected topics in production management and logistics management. They will be able to develop and deploy qualitative and quantitative methods for modelling and solving specific planning problems on their own.</b>  <b>Regarding the course on Supply Chain Management, the students will be able to</b> - describe and explain the dynamics of industrial supply chains, - develop and apply mathematical models for typical planning problems, and - identify and apply suitable approaches to improve supply chain profitability.  <b>The course explores the key issues associated with the management of industrial supply chains. The scope of supply chain management goes beyond the activities of an individual firm and considers the flows of material, information and cash from suppliers to end customers. Throughout the course, typical issues regarding the efficient interaction of these players are discussed and approaches to maximize total supply chain profitability are developed.</b>  <b>The lecture is supported by classroom discussions and case studies.</b>  <b>Regarding the course on Automotive Production, the students will gain practical knowledge of</b> - structure and processes of automotive production, - important planning tasks in automotive production and - established methods to solve the planning tasks.  <b>The course considers typical planning tasks and current trends of production and operations management in the automotive industry. Relevance of planning tasks is motivated with many practical examples. The application of the discussed planning methods is demonstrated on the basis of case studies.</b>  <b>As for Automotive Production, the students should mainly study on their own based on the lecture slides and exercises provided. In order to get a better understanding and to deepen their knowledge, the students can raise questions on the content of the lecture, which will be discussed in additional practice units. Here, also questions regarding the lecture on Supply Chain Management can be raised.</b>			



<p>Inhalt:</p> <p><b>Supply Chain Management:</b></p> <ul style="list-style-type: none"><li>▪ <b>Strategic Framework for Supply Chain Analysis</b><ul style="list-style-type: none"><li>- What are the goals of supply chain management?</li><li>- How can supply chain processes be modeled?</li></ul></li><li>▪ <b>Operative Supply Chain Management</b><ul style="list-style-type: none"><li>- How does the bullwhip effect influence the dynamics of a supply chain?</li><li>- How can optimal product availability and required inventory levels be determined?</li><li>- Which measures can help to reduce variability?</li></ul></li><li>▪ <b>Distribution Networks</b><ul style="list-style-type: none"><li>- Which design options for distribution networks exist?</li><li>- How can a suitable network design be derived from supply chain strategy?</li></ul></li></ul> <p><b>Automotive Production:</b></p> <ul style="list-style-type: none"><li>▪ <b>Network planning</b><ul style="list-style-type: none"><li>- Where should a new plant be located?</li><li>- Which car model should be built in which plant?</li><li>- Which purchasing strategy should be followed?</li></ul></li><li>▪ <b>Capacity Planning</b><ul style="list-style-type: none"><li>- Which capacity should each plant hold for the different car models?</li><li>- Which flexibility should be provided?</li><li>- Are the suppliers able to deliver the required part quantities?</li></ul></li><li>▪ <b>Order-related planning</b><ul style="list-style-type: none"><li>- Which production schedule optimally levels plant utilization?</li><li>- In which sequence should the scheduled orders be built?</li></ul></li></ul>
<p>Lernformen:</p> <p><b>Lehrveranstaltung und Selbststudium sowie Gruppenarbeitsprozess (zur Klausurvorbereitung), Medienform: Präsentation (insbesondere Folien), Skript, Lern-Management-System</b></p>
<p>Prüfungsmodalitäten/Voraussetzungen für die Vergabe von Leistungspunkten:</p> <p><b>1 Prüfungsleistung: Klausur 100 Minuten</b></p>
<p>Turnus (Beginn): <b>Wintersemester</b></p>
<p>Modulverantwortliche:</p> <p><b>Prof. Dr. rer. pol. Thomas Stefan Spengler</b></p>
<p>Sprache: <b>English</b></p>
<p>Literatur:</p> <p><b>Supply Chain Management:</b></p> <ul style="list-style-type: none"><li>▪ Chopra, S./Meindl, P. (2016): Supply Chain Management – Strategy, Planning, and Operation. Pearson</li><li>▪ Shapiro, J. (2006): Modeling The Supply Chain, Duxbury/Thomson Learning</li><li>▪ Simchi-Levi, D./Kaminsky, P./Simchi-Levi, E. (2007): Designing and Managing the Supply Chain: Concepts, Strategies, and Case studies, McGraw-Hill/Irwin</li><li>▪ Stadtler, H./Kilger, C. (2007): Supply Chain Management and Advanced Planning, Springer</li></ul> <p><b>Automotive Production:</b></p> <ul style="list-style-type: none"><li>▪ Meyr, H. (2004): Supply chain planning in the German automotive industry, in: OR Spectrum, Vol. 26, No. 4, pp. 447-470 (online available)</li><li>▪ Brabazon, P. G.; MacCarthy, B. (2004): Virtual-build-to-order as a mass Customization order fulfilment model, in: Concurrent Engineering Research and Applications, Vol. 12, No. 2, pp. 155-165 (online available)</li><li>▪ Boysen et al. (2007): A classification of assembly line balancing problems, in: European Journal of Operational Research, Vol. 183, No. 2, pp. 674-693 (online available)</li><li>▪ Boyer, K.; Leong, G. K. (1996): Manufacturing flexibility at the plant level, in: Omega, Vol. 24, No. 5, pp. 495-510.</li><li>▪ Fleischmann, B. et al. (2006): Strategic Planning of BMWs Global Production Network, in: Interfaces, Vol. 36, No. 3, pp. 194-208</li></ul>
<p>Erklärender Kommentar:</p> <p><b>In der Pilotphase wird für das Modul eine Teilnahmebestätigung der TU Braunschweig ausgestellt. Nach Akkreditierung des Masterstudiengangs können die Leistungspunkte hier angerechnet werden.</b></p>
<p>Voraussetzungen für die Teilnahme an diesem Modul:</p> <p><b>Da das Modul auf Masterniveau stattfindet, ist es an Berufstätige mit einschlägiger Berufserfahrung gerichtet. Das Pilotmodul wird von den Teilnehmenden evaluiert.</b></p>

**Anmeldeschluss: 15.10.2016**

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