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| **MODUL:** ***Smart Manufacturing: A new Perspective Towards Operations Management*** | | |
| 1 | Modulname (Deutsch) | *Smart Manufacturing: A New Perspective Towards Operations Management* |
| Modulname (Englisch) | *Smart Manufacturing: A New Perspective Towards Operations Management* |
| 2 | Modulkürzel | 100101010 |
| 3 | Leistungspunkte (LP) | *6* |
| 4 | Semesterwochenstunden  (SWS) | *4.0* |
| 5 | Moduldauer  (Anzahl der Semester) | *Ein Semester* |
| 6 | Turnus | *Jedes 2. Semester, WiSe* |
| 7 | Sprache | *Englisch* |
| 8 | Modulverantwortliche(r) | * *Prof. Dr. Andreas Größler* * *Lehrstuhl für ABWL und Produktionswirtschaft* * *Tel.: 685-83469* * *E-Mail: andreas.groessler@bwi.uni-stuttgart.de* |
| 9 | Dozenten | * *Dr. Matin Mohaghegh* |
| 10 | Verwendbarkeit/Zuordnung zum Curriculum | *M.Sc. Technisch orientierte Betriebswirtschaftslehre, PO 2015 🡪 Vertiefungsfach Kompetenzfeld Produktion*  *M.Sc. Betriebswirtschaftslehre, PO 2015 🡪 Vertiefungsfach Kompetenzfeld Produktion* |
| 11 | Voraussetzungen | *Produktionsmanagement und/oder Logistik im Bachelor* |
| 12 | Lernziele | After successfully finishing this course, students can:   * Discuss core quality management concepts and get familiar with basic quality tools and techniques * Understand how improvement-based practices facilitate organizational effectiveness * Obtain an understanding of Industry 4.0 and a general overview of new technologies in smart manufacturing * Discuss systematic problem-solving and understand how to define, analyze and manage complex operations problems * Critically discuss the scientific papers * Apply the theoretical concepts and approaches into real-life cases |
| 13 | Inhalt | This course discusses theoretical foundations of Operations Management and examines the employment of these principles at operational domain. Topics include important theories, concepts, and strategies related to (a) quality management, (b) continuous improvement and sustainability, and (c) recent approaches and principles for smart manufacturing and modern operations management. This course is designed to teach how established improvement-based initiatives (e.g. Lean production, JIT, TQM, TPM, Six Sigma, etc.) and recently-emphasized techniques for smart manufacturing lead to eliminate waste, create value, and contribute to sustainable development on the shop-floor. The strategic importance of operations techniques and decisions are also discussed in this course. We encourage active learning by getting students involved in case-discussions and case-studies. |
| 14 | Literatur/Lernmaterialien | * Bromiley, P., & Rau, D. (2016). “Operations management and the resource-based view: Another view”. *Journal of Operations Management*, 41, 95-106. * Cua, K. O., McKone, K. E., & Schroeder, R. G. (2001). “Relationships between implementation of TQM, JIT, and TPM and manufacturing performance”. *Journal of Operations Management*, *19*(6), 675-694. * Drohomeretski, E., Gouvea da Costa, S. E., Pinheiro de Lima, E., & Garbuio, P. A. D. R. (2014). “Lean, Six Sigma and Lean Six Sigma: An analysis based on operations strategy”. *International Journal of Production Research*, 52(3), 804-824. * Eisenhardt, K., M., Martin, J, A (2000). “Dynamic Capabilities: What are they?”. *Strategic Management Journal*, 21, 1105-1121. * Emiliani, M. L. (1998). “Lean behaviors”. *Management Decision*, 36(9), 615-631. * Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). “Is yours a learning organization?”. *Harvard Business Review*, *86*(3), 109. * Goetsch, D. L., & Davis, S. (2014). “Quality management for organizational excellence: Introduction to total quality”. * Hitt, M. A., Xu, K., & Carnes, C. M. (2016). “Resource based theory in operations management research”. *Journal of Operations Management*, 41, 77-94. * Porter, M. E., & Heppelmann, J. E. (2014). “How smart, connected products are transforming competition”. *Harvard Business Review*, 92(11), 64-88. * Shah, R., & Ward, P. T. (2003). “Lean manufacturing: Context, practice bundles, and performance”. *Journal of Operations Management*, 21(2), 129-149. * Tortorella, G. L., & Fettermann, D. (2018). “Implementation of Industry 4.0 and lean production in Brazilian manufacturing companies”.*International Journal of Production Research*, 56(8), 2975-2987. * Ustundag, A., & Cevikcan, E. (2017). “Industry 4.0: Managing the digital transformation". Springer. * Zollo, M., & Winter, S. G. (2002). “Deliberate learning and the evolution of dynamic capabilities”. *Organization science*, 13(3), 339-351. |
| 15 | Lehrveranstaltungen und Lehrformen (Deutsch) | * *Smart Manufacturing: A New Perspective Towards OM, Lecture, 2.0 SWS* * *Smart Manufacturing: A New Perspective Towards OM, Tutorial, 2.0 SWS* |
| Lehrveranstaltungen und Lehrformen (Englisch) | * *Smart Manufacturing: A New Perspective Towards OM, Lecture, 2.0 SWS* * *Smart Manufacturing: A New Perspective Towards OM, Tutorial, 2.0 SWS* |
| 16 | Abschätzung des Arbeitsaufwands | *Präsenzzeit : 52 h & Selbststudium: 128 h* |
| 17a | Studienleistungen (unbenotet)  (Deutsch) |  |
| Studienleistungen (unbenotet)  (Englisch) |  |
| Studienleistungen (benotet)  (Deutsch) |  |
| Studienleistungen (benotet)  (Englisch) |  |
| 17b | Prüfungsleistungen  (Deutsch) | *Schrifltiche Prüfung* |
| Prüfungsleistungen  (Englisch) | *Written exam* |
| 18 | Grundlage für… |  |
| 19 | Medienform | *Powerpoint, Texte* |
| 20 | Bezeichnung der zugehörigen Modulprüfung(en) und |  |
| 21 | Import-Export |  |
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