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| <b>Title:</b>                    | <b>Simulation in Logistic</b>   |
| <b>Lecturer:</b>                 | Prof. Dr.-Ing. Burkhard Lenz  |
| <b>Qualification aim:</b>        | Students know the modern forms of internal and cross-factory planning and implementation of logistics processes. Directly demonstrated by practical examples they understand the interaction of the actors in factory planning and logistical processes. They have knowledge of an economically successful design of logistic solutions using computer-aided design and simulation the MES. Accompanied the lecture the processing of an individual project for the integrated design of a factory planning for part manufacturing and assembly of a faceplate is.  |
| <b>Teaching language:</b>        | English   |
| <b>Contact hours/credits:</b>    | 4 hour per week, 5 credits (ECP)  |
| <b>Content:</b>                  | <ol style="list-style-type: none"> <li>1. Basics of Factory Planning and Production Logistics;</li> <li>2. Planning process (Function-/ process determination, Dimensioning);</li> <li>3. Base case of the factory planning - methods and tools;</li> <li>4. Simulation as a tool for dynamic analysis and optimization of the results of the factory planning process;</li> <li>5. Capacity determination equipment of</li> <li>6. Determination of area requirements (Methods, requirements, system dimensions?)</li> <li>7. Spatial structuring and arrangement of objects (Structure types, Pre-determination, allocation optimization, Basic forms of object arrangement</li> <li>8. Buildings and construction forms of industrial building</li> <li>9. Location selection (Macro, micro location)</li> </ol> |
| <b>Teaching method:</b>          | lectures 2 x 90 min. per week, lab experiments included   |
| <b>Necessary knowledge:</b>      | fundamentals of Manufacturing processes and process organization  |
| <b>Usability:</b>                | Mechanical Engineering, Industrial Engineering (B.Eng.)   |
| <b>Preconditions for the</b>     |   |
| <b>Granting of credits</b>       | written examination: 120 min  |
| <b>Credits:</b>                  | 5 ECTS- Credits   |
| <b>Frequency:</b>                | annually in the summer semester   |
| <b>Workload:</b>                 | 150 hours ( present time: 60h + self-study 90h)   |
| <b>Duration of one unit:</b>     | 90 min.   |
| <b>Supporting documents:</b>     | scriptum  |
| <b>Recommended publications:</b> | <p>Factory Planning Manual - Situation-Driven Production Facility Planning;<br/> Michael Schenk, Siegfried Wirth, Egon Müller; Springer Verlag, 2010</p> <p>Simulation Software Enterprise dynamics TUTORIAL, 2009 Incontrol Simulation Software</p>  |