

<b>Course number</b> 7.2b)	<b>Course name</b> <b>Material Flow and Factory Planning</b> (Materialfluss- und Fabrikplanung)		
<b>Code</b> MFP	<b>Semester</b> 2	<b>Number of WSH</b> 4	<b>Module offered</b> every academic year (summer semester)
<b>Lecturer</b> Prof. Galka	<b>Tuition type</b> Seminar tuition		<b>Compulsory/Elective</b> Elective module Major Management and Logistics
<p><b>Learning outcomes</b></p> <p>On completing the module the students will have achieved the following learning outcomes on the basis of scientific methods:</p> <p><u>Subject skills</u></p> <p>Students have a knowledge of the major systems technologies used in material flow and factory planning. They are capable of methodically developing their own keys plans and an overall business schematic as well as outline layout plans for a company or department. Students have the skills needed for a methodical evaluation of planning alternatives and for a (rough) costing of the design scopes and calculating the budget and investment costs. They are able to calculate delay system models and to undertake the design of transport, handling and material flow systems. Students can carry out a dynamic investment calculation (net present value method, amortisation accounting).</p> <p><u>Social skills</u></p> <p>Students will be able to contribute appropriate positions to planning and decision processes on the basis of the knowledge and skills which they have acquired. They are able to present arguments appropriate to different target groups involved in the planning of material flow.</p> <p><u>Method skills</u></p> <p>Students are familiar with the planning content of the different levels and phases of factory planning. They are able to create a value stream map and to image material flow systems.</p> <p><u>Personal skills</u></p> <p>Students will be able to adopt positions which have a company's business objectives and the interests of its stakeholders as their focus. They are aware of the impact of the business decisions taken within the scope of material flow planning.</p>			
<p><b>Content</b></p> <ul style="list-style-type: none"> <li>• Basic design engineering (planning domains, system technologies)</li> <li>• Planning systems (planning principles, planning sequence, planning phases, planning content, planning instruments, planning methods, planning aids)</li> <li>• Evaluation methods (static/dynamic investment costing, cost/benefit analysis)</li> <li>• Tendering and implementation (content of bid invitations, performance tests, technical availability, acceptance)</li> <li>• Selected case studies: planning commercial premises, warehouse and picking planning, outer packaging line with palletisation)</li> </ul>			

<ul style="list-style-type: none"> <li>• Special principles of structure planning (segmentation, the fractal factory)</li> <li>• Value stream analysis, value stream-based system planning and design</li> <li>• Basic elements of material flow systems, visualising material flow systems, delay system models</li> <li>• Material flow analysis, the design of transport, handling and material flow systems</li> </ul>		
<p><b>Literature</b></p> <p><u>Required reading</u></p> <p>Aggteleky, B.: Fabrikplanung: Werksentwicklung und Betriebsrationalisierung, Vol. 1-3, Hanser</p> <p>Kettner, H.; Schmidt, J.; Greim, H.R.: Leitfaden der systematischen Fabrikplanung. Munich, Vienna: Hanser, 1984</p> <p>Eva Klenk, Janina Durchholz, Julia Boppert und Willibald A. Günthner: Schlanke Logistikprozesse: Handbuch für den Planer, Berlin, Springer Verlag, 2015.</p> <p><u>Recommended reading</u></p> <p>-</p> <p>each in their latest edition</p>		
<p><b>Teaching and learning methods</b></p> <p>Seminar tuition with the active participation of the students in the seminar sessions, supported by work sheets, lecture notes, PPT presentations, Videos and additional use of whiteboards</p>		
<p><b>Type of examination/Requirements for the award of credit points</b></p>		<p>Written class exercise</p> <p>Duration: 90 minutes</p>
<p><b>Other information</b></p>		<p>Excursions as applicable</p> <p>Guest presentations as applicable</p>
<p><b>ECTS Credits</b></p> <p>5</p>	<p><b>Workload</b></p> <p>150 hours</p> <p>Contact/attendance time: 60 h</p> <p>Additional work: 90 h</p>	<p><b>Course language</b></p> <p>German</p>