In effect from: 2017/18 II. semester	**Process Planning** **BMEGEGTMW02**	

Orientation topics for final exam

The topics listed below may not be the same as the actual questions of the final exam. However, the topics comprise a guideline: they show a recommended systemisation of the subject's curriculum. Topics include the learning material of lectures, practises and laboratories (if there was any).

1. **The „heroic" age of computer aided engineering** – Computerisation after the development of numerical control – Consequence and attendance of NC and CNC developments – direct and indirect tasks of manufacturing planning (programming) – the levels of automation (sequencing, operation planning, parametering, adaptation and conceptional, embodiment and detailed planning).
2. **„Processor-Postprocessor Theory"** – Basic modules of process planning – object and process oriented concepts of engineering (manufacturing process planning) – The historic steps of computer modularisation and integration (CAxx systems) – Independent and bound systems.
3. **The structure and levels of Computer Integrated Systems (enterprice, production level and shop-floor programming)** – Object and process oriented integration of computer systems – Main modules of an integrated systems on the different levels of manufacturing process planning.
4. Generative (heuristic) methods and variative synthesis of manufacturing process planning – **Type and Group Technology** – Axiomatic and synthetic adaptation within process planning.
5. **Sequencing** tasks in the different levels of manufacturing process planning – Preliminary conditions and condition systems (separated and combined process elements) – Determination of sequence variants (matrix reduction and vector variant methods).
6. **Process planning and scheduling** (PPC/S, CAST, MRP modules) – Determination a GANTT diagrams (priority rules) and PERT diagram (network plans, progressive and retrograde calculations) – Methods of meeting deadlines.
7. **Handling of quality parameters of objects** and process elements (main differences and connections of constructional and shop-draw parameters) – Computer systems of quality managements (CAQx) – Deterministic and stochastic view of quality parameters – Calculation of probability – Process planning for full and partial changeability of items.
8. **Statistical Process Control** – The basic rules of SPC– Principal SPC parameters – Process capacity and productivity (power) and index – Connections between partial changeability and statistical process planning.

Updated at: 1. June 2018