Module specification Serial Production

Department	Engineering and Management
Study programmes	Industrial Engineering and Management (M.Sc.)
Module name	Serial Production
Module code	WI-M.08
Module type	Elective module
Module coordinator	Prof. Dr.-Ing. Uwe Herbst
Learning objectives	The students get a holistic view of the role and the tasks of manufacturing during the introduction of a new product in serial production. They know the required tools and methods for each product introduction phase and are able to apply them. This enables the students: – to plan and realize as an industrial engineer the production for new products – to assess in an early stage a product design from a manufacturing perspective in order to propose point of improvements leading to cost savings – to understand as a project leader for a new product the needs of production and to consider them adequately – to ensure as a technical buyer the delivery of purchased parts or machine in time, in costs and in quality.
Content	– Time-to-market process and the role of production – Evaluating product designs from production perspective o Motivation o Manufacturing specific design o Assembly specific design o Management of complexity – Planning of the production o Manufacturing and assembly concept o From concept to plan o Planning testing and intra logistic – Realization of production o Purchasing of machines, equipment and tools o Development/adjustment of manufacturing processes o Qualification of personal – Sourcing of purchased parts and components o Classification of supplier o Make or buy decision o Supplier selection o Supplier qualification – Quality management o Prototyping and sampling o Tracing product and project quality o Selected quality tools – Ramp-up – Simultaneous engineering

Teaching formats **L**ecture**, T**utorial**, S**eminar**, Lab** Work **(SWS)**	Seminar **S** with 4 semester course hours (SWS)
Literature references	/1/ Iris Gräßler: Kundenindividuelle Massenproduktion, Springer Verlag 2004 /2/ Various (see script)
Learning materials	Presentation, Script
Learning formats	Seminar with case studies/ exercises
Programme level	Master
Start of programme (WS/SS)	Summer term
Study semester	1./2.
Prerequisites	Basic knowledge of production processes, production equipment, material flow and production control
Prerequisites for awarding credit points	Performance record accompanying the seminar
Module usage	Industrial Engineering and Management (M.Sc.)
ECTS credits	6
Workload	Hours in class: 4 SWS => 60 h Self-study: 120 h
Module duration	1 semester
Location	EAH Jena
Course time	According to timetable
Language(s) of instruction	German /English