Quality Management (Module Technique 3)

1	**Course Number**	**Study Program**	**Semester**	**Offered in**	**Duration**	**Course type**	**Workload (h)**	**ECTS Credits**
	0957	TAB/TBB	3	☒WS ☒SS	1 Semester	mandatory	60	2

2	**Course**	**Teaching and Learning Forms**	**Contact Time**		**Self-Study**	**Language**
			(SWS)	**(h)**	**(h)**	
	Quality Management	Lecture with exercises	2	30	30	English

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Learning Outcomes and Competences

After successfully completing the module, students acquire...

Knowledge and understanding

- ... explain the basic procedures of quality management and understand the interrelationships within quality management (quality planning, control, assurance).
- ... understand and explain quality management tools.
- ... understand the results of statistical calculations in QM (SPC) and draw permissible conclusions.
- ... understand correlations between product, service and process quality.

Usage and transfer

- ... derive requirements from norms and standards for quality management.
- ... prepare quality reports.
- ... analyse quality problems and develop proposals for solutions.
- ... recognise and classify interrelationships between the subject areas in Technique 3 (Machine Elements, Manufacturing systems and automation
- ... understand the basics of using quality management systems.
- ... apply quality management tools to industry-related problems.
- ... apply the knowledge, skills and competences learned to evaluate quality management systems using case studies.

Communication und Co-operation

- ... actively communicate within an organisation and obtain information.
- ... take different perspectives and views towards quality aspects (costs, standards, customer expectations), judge them against each other and make evaluations.
- …carry out statistical calculations and evaluations in quality assurance (SPC) and evaluate and present the results.
- ... present and discuss technical content.
- ... communicate and cooperate in the group in order to find adequate solutions for the set task.

Scientific self-conception / professionalism

- ... derive decision-making recommendations from a business and ethical perspective on the basis of the analyses and evaluations made.
- ... justify the developed solutions theoretically and methodically.
- ... reflect on and assess their own abilities in a group comparison.

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4	**Methods** Learn and understand the principles of modern quality management. Master important methods and procedures of quality management • Origin and development of quality management • Getting to know the importance of different quality philosophies and the aspects of compliance management • Quality management in the product life cycle and in different company divisions • Quality management methods, e.g. QFD, DFMA, 8D, FMEA, SPC, ... • Process orientation of a quality management system • Costs and benefits of quality management • Quality management systems and standards: DIN EN ISO 9000 ff, EFQM, TQM, ...
5	**Participation Requirements** recommended: Proficiency in English corresponding to at least level B2 according to the Common European Framework of Reference for Languages. School knowledge in mathematics and physics
6	**Examination Forms and Prerequisites for Awarding ECTS points** 40 minutes exam
7	**Further use of course** Mandatory Module in the bachelor degree international industrial management (TBB) and industrial management automobile industry (TAB).
8	**Responsible for the Module/Lecturer** Prof. Zürn (MV)
9	**Literature** • Brunner, F.; Wagner K.W. (2016): Qualitätsmanagement – Leitfaden für Studium und Praxis, 6. überarbeitete Auflage, Carl Hanser Verlag • Herrmann, J.; Fritz, H. (2016): Qualitätsmanagement, 2. überarbeitete und erweiterte Auflage, Carl Hanser Verlag • Kiran: Total Quality Management : Key Concepts and Case Studies, Elsvier, 2016 • Orzes: Quality management: tools, methods and standards, Emerald Pub., 2019
10	**Last Update** 30.05.2022