

INTERNATIONAL SUMMER SCHOOL

**„NEW APPROACHES TO QUALITY
MANAGEMENT“**

at

VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

FACULTY OF MATERIALS
SCIENCE AND TECHNOLOGY

DEPARTMENT
OF QUALITY
MANAGEMENT

THE CZECH REPUBLIC

13 – 17 JULY 2020

The focus of the course are fundamental concepts of quality management used in strategic industries, such as the car industry, advanced quality planning techniques, advanced process control, creativity techniques, multi-criteria decision-making in product design. It is provided by experienced mentors who are experts in the field. The course is run in a very friendly environment and includes interesting excursions. **The course is worth 2 ECTS credits.**

The course fee is 250 euros.

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Lecturers: Prof. Ing. Jiří Plura, CSc., Prof. Ing. Darja Noskievičová, CSc., Ing. Pavel Klaput, Ph.D., Ing. Zdenka Hofbrücknerová, Ph.D., Ing. Filip Tošenovský, Ph.D.

COURSE ORIENTATION

Advanced Approaches to Quality Management - Quality evolution as a challenge for the future, fundamental concepts and principles of advanced quality management, organizational quality and organizational excellence models, closed-loop quality management systems.

New Approaches to Product Quality Planning - Quality planning as part of quality management, advanced product quality planning, requirements for product quality planning used in automotive industry, new approaches to suitable methods for effective product quality planning: quality function deployment, failure mode and effect analysis, measurement system analysis, process capability analysis.

Advanced Statistical Process Control - This subject will be focused on the statistical process control (SPC). After explanation of basic principles of SPC and introduction to the classical Shewhart control charts, methods suitable for agile and smart manufacturing conditions will be presented (control charts for highly capable processes, model-free approaches). Some practical applications will be presented by illustration. Statistical software for the support of some of these charts will be presented, too.

Creativity in Quality Management - Participants in the course learn what creativity is, how it contributes to enriching human life and how it can be practically exploited in quality management. The exposition of the subject involves acquaintance with phases of forming creative ideas, relations between creativity and innovations and the style of thinking known as „out of box“ thinking. Exercises focus on training creativity. The participants will also have a chance to try several techniques of creative problem-solving used in real-world production.

Multicriteria Decision-Making - Major terms used in this discipline are introduced, multicriteria decision-making techniques based on major mathematical models are presented. These include the weighted-average model, distance-based model, hybrid models. Possibilities of using the discipline in product design are described.