



QUALITY MANAGEMENT SYSTEMS

MSC
IN MATERIALS ENGINEERING and METALLURGICAL ENGINEERING

(Full time training)

COURSE SHEET

**UNIVERSITY OF MISKOLC
FACULTY OF MATERIALS SCIENCE AND ENGINEERING
INSTITUTE OF ENERGY AND QUALITY**

2017/18. 2nd semester, Miskolc

Course sheet
QUALITYMANAGEMENT SYSTEMS
for MSc students

Course Title: Quality Management Systems MAKMKT520M (compulsory subject)	Credits: 4
Type and Number of Contact Hours per Week: 2 hours lectures	
Type of Assessment: exam mark	
Evaluation of students' performance: Full attendance, active participation, close test (min. 60% achieved).	
Position in Curriculum (which semester): spring, 2	
Pre-requisites (if any): -	
Course Description:	
<p>Acquired store of learning:</p> <p><u>Study goals:</u> The aim of this course is to give an overview of quality-oriented production processes; provide expertise in the identification of quality technology and quality control factors; prepare future professionals for effective cooperation with the respective state authorities and quality organizations.</p> <p><u>Course content:</u> Management Systems: historical development, objectives, applications, significance. A brief overview of the most commonly used certifiable management systems; structural and functional units, principles; the configuration, implementation and certification of the systems. The target systems discussed during the semester are: quality management systems, environmental management systems, food processing- and automotive supply systems, laboratory quality management and control systems. The course outlines the fundamental concepts of total quality management (TQM) and introduces the principles of the European Foundation for Quality Management (EFQM). The certification system and process flow is presented in details. Related concepts are: audit – definition, audit types, process flow and results; conformity assessment and standardization – definition, target organizations and institutions; accreditation – definition, process flow and results.</p> <p><u>Education method:</u> Course lecture, presentation.</p> <p>Tematic</p> <ol style="list-style-type: none"> 1. Element of Quality management. Quality Control (QC), Quality Assurance (QA), Quality management (QM). Historical development in the 20th century. Basic Models of Quality Management: The 8 general principles of quality management, PDCA-DDCA model. 	

2. Standardisation. Principles, benefits and barriers. Elements of ISO standards in general. Members of the ISO 9000 standard-family. Other standards and connections.
3. ISO 9001 requirements: Commitment of management, documentation system.
4. ISO 9001 requirements: Resources, Production, Product and Process Development.
5. ISO 9001 requirements: Adjusting and prevention. Models, methods and approaches.
6. ISO 9001 practical: analysis ISO documents. Filling forms. Design of ISO documents.
7. Quality audit: historical and business background. Typology. Process of the audit.
8. Quality audit practical I: preparations for the audit. Documents, standards, checklists.
9. Quality audit practical II: The audit day. Practice the roles of the auditors and company.
10. Quality management toolset: easy creative and statistical tools for quality management.
11. Business Excellence: Structure and content of Deming, Baldrige and EFQM models.
12. Environmental management systems, food processing- and automotive supply systems, laboratory quality management and control systems.

The 3-5 most important compulsory, or recommended **literature** (textbook, book) **resources**:

- Juran, Joseph Moses: Juran on leadership for quality : An executive handbook, New York London 1989
- Masing, Walter: Handbuch Qualitätsmanagement, München, 2007
- Seghezzi, H.D.-Fahrni, F.-Herrmann, F.: Integriertes Qualitätsmanagement – Der St. Galler Ansatz. 3. Aufl. Carl Hanser Verlag, München, Wien 2007

Responsible Instructor (*name, position, scientific degree*):

Other Faculty Member(s) Involved in Teaching, if any (*name, position, scientific degree*):

Miskolc, 12/02/2018

Dr. Arpad B. Palotas
Head of the Institute, professor

Lecturer,