Course Unit Descriptor

Study Programme: Engineering Management; Mechanical Engineering; Clothing Engineering; Environmental Engineering

Course Unit Title: Quality Management

Course Unit Code: OAS193

Name of Lecturer(s): Professor Dragan Ćoćkalo, PhD

Type and Level of Studies: Bachelor Academic Degree

Course Status (compulsory/elective): Compulsory

Semester (winter/summer): Winter

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:

Acquiring knowledge in the field of quality management, especially from the aspect of the basic postulates of the concept of the quality management system, the creation, evolution of the quality system and the application of this concept in practice.

Learning Outcomes:

Students will be trained in introducing and applying requirements of international standards and modern concepts of quality management in the organization.

Syllabus:

Theory

The origin and evolution of quality management: the emergence and evolution of the concept of quality management, the evolution of the concept of quality management, the basics of learning the most important authors in the field of quality. Quality and enterprise management: quality as a global phenomenon, interrelation of business functions in the company, importance of quality for the company's market position and its competitive ability. ISO 9000 Series Series of International Standards: Origin and Evolution of Standards. General characteristics of the quality management system: documentation, costs, benefits from the introduced quality management system. TQM concept: the basics of the concept, the most important authors, TQM models, continuous improvement of quality. Quality tools: the need for quality tools, seven basic quality tools, new quality tools. Quality Management Methodologies: The Six Sigma Concept. A series of international standards ISO 14000: origin, evolution, applicability, introduction and certification procedures. Series of International Standards ISO 45001: Origin, Evolution, Applicability. HACCP: basic principles and procedures of introduction, importance for the national economy. ISO 22000: character, new approaches. IMS - integrated management systems: requirements, basics, design. Contemporary engineering and quality: reengineering, benchmarking.

Practice

Follow lectures on examples and tasks. Quality tools and QMS documentation are especially handled. They also include the preparation and preparation of seminar papers.

Required Reading (Alphabetical order)**:**

Allen, T.T. (2006). *Introduction to Engineering Statistics and Six Sigma*. London, UK: Springer-Verlag

Kiran, D.R. (2017). *Total Quality Management: Key Concepts and Case Studies*. Oxford, UK: BSP Books Pvt. Ltd.

Knowles, G. (2011). *Quality management*: bookboon.com			
Weekly Contact Hours: 5	**Lectures:** 3	**Practical work:** 2	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Active class participation	5	written exam (problem solving exam)	20
Practical work		oral exam (theoretical exam)	40
Preliminary exam(s)			
Seminar(s)	35		