POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fundamentals of product engineering and quality management

Course

Field of study	Year/Semester
Chemical Technology	IV/7
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
First-cycle studies	English
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15		
Tutorials	Projects/seminars	
	15	

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Beata Starzyńska

email: beata.starzynska@put.poznan.pl

tel. 61 665 27 41

Wydział Inżynierii Mechanicznej

ul. Piotrowo 3 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Student has basic knowledge of the sciences (mathematics, physics, chemistry) and other areas relevant to the field of study; he or she is able to effectively use the information obtained; he or she understands the need for further education and improvement of his or her professional and personal competences.

Course objective

The aim of the course is to gain knowledge of the basics of product engineering and quality management, to get to know a wide range of methods used in the design and manufacturing phase of the product, and to strengthen pro-quality awareness.

Course-related learning outcomes

Knowledge

1. Student has basic knowledge of design methods for quality (QFD, FMEA), methods of testing and

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

quality control of products and process supervision (SPC). The student knows the requirements of ISO 9000 series standards as a basis for designing quality management systems.

Skills

1. Student is able to select and apply the methods he or she learns according to the phase in the product life cycle.

2. The student is able to design selected elements of the Quality Management Systems QMS.

Social competences

1. Student is aware of the importance of the effects of engineering activities, including their impact on the environment, and the related responsibility for decisions made.

2. Student is able to see the systemic and non-technical aspects of tasks while formulating and solving them.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Colloquium (in the form of a test). Development and passing of projects.

Programme content

Definitions of quality. Quality management. Quality management functions/processes. Quality engineering. Quality shaping in product life cycle. Quality of service. Design, manufacturing and operational quality of a product. Quality shaping in the extended product life cycle. Design methods and tools for quality. Methods of testing and quality control of products and processes. Statistical process control (SPC basis). Requirements of ISO 9000 series standards. Basis for designing quality management systems.

Teaching methods

Lecture; active participation in classes; projects, consultations

Bibliography

Basic

Hamrol A., Zarządzanie i inżynieria jakości. Wydawnictwo PWN, Warszawa 2017

Additional

Starzyńska B., Hamrol A., Grabowska M., Poradnik menedżera jakości – kompendium wiedzy o narzędziach jakości, Wydawnictwo Politechniki Poznańskiej, Poznań 2010

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	50	2,0
Student's own work (literature studies, preparation for classes, preparation for the colloquium, participation in consultations) [1]	50	2,0

---

[1] delete or add other activities as appropriate