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
Zarządzanie jakością  w budownictwie

## Course

| | |
|---|---|
| Field of study | Year/Semester |
| Construction | 1/2 |
| Area of study (specialization) | Profile of study |
| Inżynieria Przedsięwzięć Budowlanych | general academic |
| Level of study | Course offered in |
| Second-cycle studies | Polish |
| Form of study | Requirements |
| full-time | compulsory |

## Number of hours

| Lecture | Laboratory classes | Other (e.g. online) |
|---|---|---|
| 15 | 15 | 0 |
| Tutorials | Projects/seminars | |
| 15 | 0 | |

## Number of credit points

3

## Lecturers

Responsible for the course/lecturer:

dr inż. Piotr Nowotarski

e-mail: piotr.nowotarski@putpoznan.pl

tel: 616652190

Wydział Inżynierii Lądowej i Transportu

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Responsible for the course/lecturer:

dr hab. inż. Jerzy Pasławski, prof. PP

e-mail: jerzy.paslawski@put.poznan.pl

tel: 616652149

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## Prerequisites

The student has basic knowledge of the basics of construction and the subject of quality management; The student is able to obtain information from the indicated sources and analyze engineering activities undertaken; The student is aware of the need to constantly update and supplement construction knowledge and take responsibility in professional work; The student is aware of the issues of management in construction

## Course objective

Learning and expanding knowledge of the basic principles of construction in the aspect of quality, management in construction in the aspect of implementation of a construction project in terms of quality. Sensitizing the student to practical aspects of quality management in construction.

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## Course-related learning outcomes

Knowledge

1. Have detailed knowledge on business activity in construction industry and the ways of developing different forms of individual entrepreneurship; understand the principles of enterprise financial economy.

2. Have detailed knowledge in the field of operation algorithms of selected software supporting the analysis and design of building facilities, which are also useful to plan and manage construction projects, including Building Information Modelling (BIM).

3. Know in detail the rules of developing the procedures of construction project quality management; have knowledge of the effectiveness, costs and timing of construction projects under risk and uncertainty conditions..

Skills

1. Are able to prepare an introductory economic analysis of proposed solutions and undertaken engineering activities; can prepare a cost calculation and a work schedule, contract and business plan of a building project; are able to manage building processes, define duties and tasks in investment and building control.

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3. Can estimate hazards of building projects and building operation, implement suitable safety rules and prepare work standards as well as quality management procedures. .

Social competences

1. Can realise that it is necessary to improve professional and personal competence; are ready to critically evaluate the knowledge and received content..

2. Understand the need to transfer to the society the knowledge about building engineering, transfer the knowledge in a clear and easily comprehensible manner.

3. Are ready to think and act in a business-like way.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

As a form of measuring / assessing student work, a final test is carried out (during the last class)

Grade scale determined% from:

90 very good (A)

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85 good plus (B)

75 good (C)

65 sufficient plus (D)

55 satisfactory (E)

below 54 insufficient (F)

## Programme content

Lecture 1 - Introduction

Lecture 2 - Quality management models

Lecture 3 - Quality management fundamentals

Lecture 4 - Quality management development

Lecture 5 - Quality management for construction industry

Lecture 6 - Quality management guru - Deming, Juran and Crosby

Lecture 7 - TQM elements

Lecture 8 - Assessment

Classes 1 - Introduction

Classes 2 - ISO and Quality

Classes 3 - ISO 9001

Classes 4 - ISO 45001

Classes 5 - ISO 14001

Classes 6 - ISO - summary

Classes 7 - ISO - summary

Classes 8 - Assessment

Laboratory 1 - Introduction

Laboratory 2 - Overview of the task to be performed

Laboratory 3 - Overview of the task to be performed

Laboratory 4 - Task work / consultation

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Laboratory 5 - Task work / consultation

Laboratoirum 6 - Task work / consultation

Laboratory 7 - Work on the task / consultation

Laboratory 8 - Passt

## Teaching methods

Pyramid discussion; Panel discussion; The classic problem method; Teaching games; Exchange of ideas; Informative lecture; Problem lecture; Conversational lecture; Program text; Work with a book; Talk; Lecture reading; Demonstration method; Production exercise method; Method of experiments; Observation and measurement method; Project method; Leading text method; Workshop method; Show.

## Bibliography

### Basic

1. Hamrol A. Zarządzanie jakością z przykładami, Wydawnictwo Naukowe PWN, Warszawa 2005, 2008

2. Eckers G. Rewolucja Six Sigma ? jak General Electric i inne przedsiębiorstwa zmieniały proces w zyski, Akademia Białego Kruka, MT Biznes, Warszawa 2010

### Additional

1. Myszewski J. PO PROSTU JAKOŚĆ. PODRĘCZNIK DO ZARZĄDZANIA JAKOŚCIĄ, , 2009

2. Nowotarski, Piotr, and Jerzy Paslawski. "Barriers in running construction SME–case study on introduction of agile methodology to electrical subcontractor." Procedia Engineering 122 (2015): 47-56.

## Breakdown of average student's workload

|  | Hours | ECTS |
|---|---|---|
| Total workload | 90 | 3,0 |
| Classes requiring direct contact with the teacher | 45 | 1,5 |
| Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1] | 45 | 1,5 |

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[1] delete or add other activities as appropriate