SUBJECT DATASHEET

QUALITY MANAGEMENT

BMEGT20M002

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
QUALITY MANAGEMENT

ID (subject code) BMEGT20M002

Type of subject
contact lessons

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
term grade

Number of credits
2

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Surman Vivien	associate professor	surman.vivien@gtk.bme.hu

Educational organisational unit for the subject
Department of Management and Business Economics

Subject website
https://edu.gtk.bme.hu

Language of the subject
magyar - HU

Curricular role of the subject, recommended number of terms

Direct prerequisites

Strong	None
Weak	None
Parallel	None
Exclusion	None

Validity of the Subject Description
Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580950/7/2025 registration number. Valid from: 2025.10.29.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

By fulfilling the subject, students will get acquainted with current issues and methods of developing quality management systems. They get an overview of the quality philosophies applied to quality improvement in the productive sectors and the basics of quality management methods that support their implementation.

Academic results

Knowledge

1. Will be aware of the competitive nature of quality management.
2. Will understand the place and role of quality management in the successful operation of organizations as a whole.
3. Will be familiar with some of the best models, methods and tools of quality management.

Skills

1. Will be able to follow and understand the quality management literature.
2. Will be able to communicate on the topic of quality management in a professionally adequate way.
3. Will be able to professionally participate in solving quality management problems, preparing and / or making such decisions.

Attitude

1. Will be receptive related to quality management to follow organizational development.
2. Will be open to accepting new results from quality management.
3. Will seek collaboration in multidisciplinary teamwork.

Independence and responsibility

1. Perform independent tasks in the analysis of quality management problems.
2. Perform independent tasks in the preparation and / or making of quality management decisions.
3. Take responsibility for quality management decisions.

Teaching methodology

Lectures.

Materials supporting learning

- Kemény S.–Papp L.–Deák A. (1999) Statisztikai minőség- (megfelelőség-) szabályozás. Műszaki Könyvkiadó–Magyar Minőség Társaság, Budapest.
- Kiran, D.R.: Total Quality Management key concepts and case studies, Elsevier, 2017.
- Kövesi J. – Topár J. (szerk.) (2006): Minőségmenedzsment alapjai, Typotex Kiadó, Budapest
- MSZ EN ISO 9001:2015 Minőségirányítási Rendszerek - Követelmények MSZT 2015.
- Topár J. (szerk.): A műszaki menedzsment aktuális kérdései Műszaki Kiadó Budapest, 2012.
- Topár J (2001): A minőségmenedzsment -rendszerek fejlődésének néhány jellemzője a hazai vállalkozásoknál. Harvard Business Manager 4/2001 pp.50-57
- Tenner A. R. – DeToro I. J. (2001): Teljes körű minőségmenedzsment TQM 3. kiadás, Műszaki Könyvkiadó, Budapest

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The assessment of the learning outcomes formulated in point 2.2 takes place the following way: The subject is fulfilled with term grade.

Performance assessment methods

Detailed description of the performance evaluations carried out during the term: The term grade is determined from the results of the total performance assessments held during the semester (two midterms) and the results of the partial performance assessments prepared
in the groups. Information about the partial performance assessment will be published in the lectures and on the website. Completion of the tasks is mandatory. Without them, the requirements of the subject cannot be met. The two midterms together determine in 80% and the partial performance assessment in 20% the term grade. The midterms are included in the term grade in equal proportions. The midterms are 50-50 points, the total of at least 45 points must be achieved from the two midterms, and at least 18-18 points per midterm.
The term grade = midterms' scores * 0.8 + partial performance assessment.

Percentage of performance assessments, conducted during the study period, within the rating

- **1st midterm**: 40
- **2nd midterm**: 40
- **partial performance assessment**: 20
- **total**: 100

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

Issuing grades

Excellent	94
Very good	87–93
Good	73–86
Satisfactory	59–72
Pass	45–58
Fail	44

Retake and late completion

The retake of the midterms is possible during the retake week in accordance with the regulations of the Code of Studies. It is also possible to retake the partial performance assessments until the end of the retake week.

Coursework required for the completion of the subject

participation in contact hours	24
preparation for contact hours	6
preparation for the midterm tests	15
preparation for the partial performance assessments	15
total	60

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 13.10.2025.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

To achieve the learning outcomes set out in section 2.2, the course consists of the following areas and topics.

1 Intorduction. Basic principles of quality management. Requirements, flow and topics of the course. Quality management systems in productive sectors. Main directions of quality improvement.

2 Structure, requirements and application of ISO 9000 in the operation of organizations.

3 Principles and requirements of ISO 9000 standard in a quality management system developed through them. Weaknesses and improvement points of systems operating based on the ISO 9000.

4 Principles of TQM philosophy. Main elements of customer focus.

5 Principles and methods of total commitment.

6 Process management and operation improvement. Basics of process management. Perceptions on continuous process improvement. Process modelling in quality management systems. KPIs in quality improvement.

7 Development and role of self-evaluation models in quality improvement. Principles and criteria of EFQM.

8 Evolution of Six Sigma and its relation to TQM. Basics of Six Sigma. Relationship between TQM, Six Sigma and Lean management.

9 Probabilistic and mathematical statistical bases of quality management methods.

10 Introduction to process capability analyses and their methods, calculating capability indices and their interpretation.

11 Basics of statistical process control, process control with control charts.

Additional lecturers

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Dr. Benedek Petra	egyetemi adjunktus	benedek.petra@gtk.bme.hu
Erdei János	mesteroktató	erdei.janos@gtk.bme.hu

Approval and validity of subject requirements