

Quality Management

A01. Introduction to Quality

ING. EVA ŠÍROVÁ, PH.D.

SS – AY 2023/2024



OFFICE HOURS:

MONDAYS 9:00 - 10:00 OR BY APPOINTMENT VIA EMAIL.

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Course enrollment

- Login with the password to LIANE
- **Course REGISTRATION required**
- After entering your primary course, you will be taken to a link to the **MNKIM** course, which is common to all Quality Management courses abbreviations.

- <https://elearning.tul.cz/course/view.php?id=16164>

Course Classification

Final Exam: 25 points

Submission and Presentation of
Semester Topic: 25 points

Total: 50 points

Minimum to Pass: 30 points

Seminar Work - 25 points

- Presentation (15 minutes) on the randomly selected topic (group of three students)
- Explain the topic to your colleagues with the pictures, short videos, case studies, best practices)
- Prepare the presents as interactive and educative as possible.
- Use EF TUL Powerpoint template.
- Please STRICTLY beware of PLAGIARISM

Seminar Work - 25 points

- Using of resources: books, working papers, websites, no Wikipedia or other general sources!
- Use university library databases (ProQuest, Bookport, NTK) for resources.
- Citation – Harvard style (see link in e-learning how to use it).
- Send the presentation by Friday 8:00 before the date of the lecture (to eva.sirova@tul.cz) and implement the comments of the lecturer.
- Final presentation in PDF send to Eva Šírová 3 days after the presentation including presentation notes.

Seminar Work - 25 points

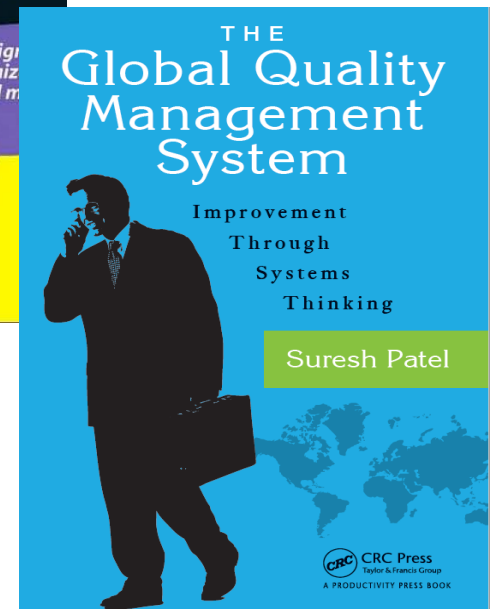
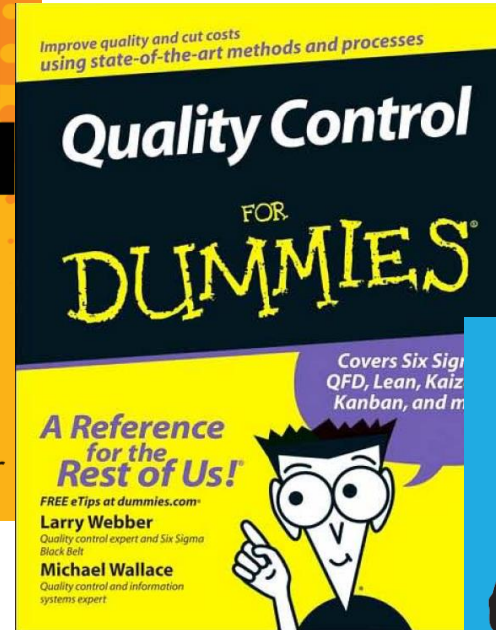
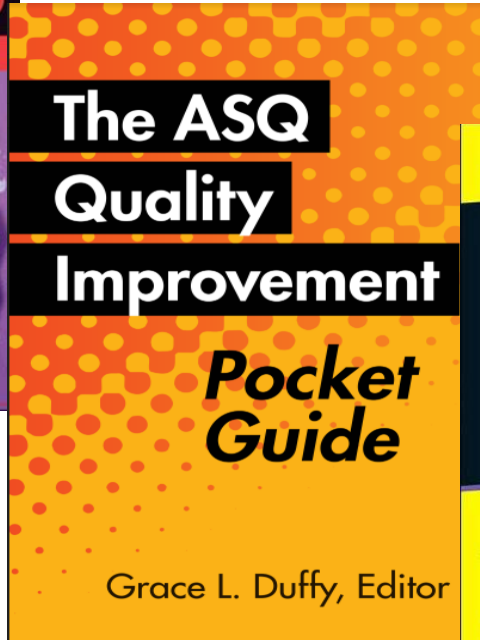
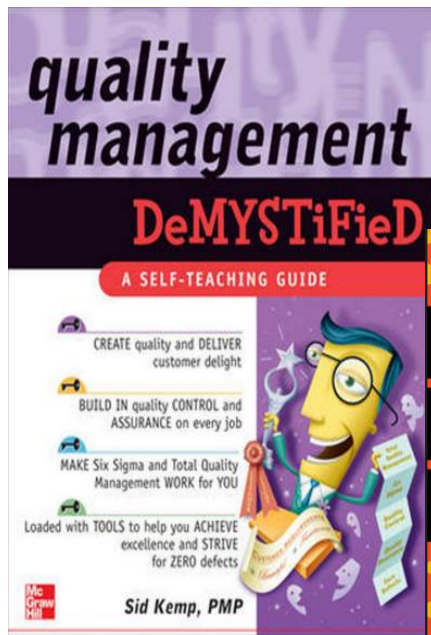
The excel file with the overview of the topics and dates will be shared in the elearning platform.

Evaluation criteria

Content, Formal level of presentation (Layout, template, text/figures), Overall level of performance - Clear explanation of the topic, Speech dynamics (monotony level), Time Management, Ability to answer the questions

1. Lean, Continuous Improvement
2. Basic Tools for Quality - Checklist, Pareto Chart, Histogram)
3. Statistical Process Control - Control Charts (LSL, Mean, USL), Bell Curve/Normal Distribution

4. Quality Standards and Norms; ISO 9000 Family: 9001:2015, VDA (ISO/TS 16949), Quality Audits
5. Advanced Tools for Quality and Process Approach - Part 1: PDCA, KANBAN
6. Advanced Tools for Quality and Process Approach - Part 2: QFD, SIPOC, RACI
7. Total Quality Management: Concepts, Quality Costs, Taguchi
8. Root Cause Analysis (Ishikawa Fishbone Analysis, 5 Whys, FMEA, DFMEA)
9. Six Sigma + Lean Six Sigma
10. Quality Function Deployment (QFD)
11. Awards, Competitions and Labels on Quality Management (e.g.EFQM model, CE certification)



References

EVANS, James R. a William M. LINDSAY. 2019. *Managing for quality and performance excellence*. 11th ed. Australia: Cengage. ISBN 978-0-357-44203-6.

Webber L. and M. Wallace. 2012. *Quality Control for Dummies*. 1st ed. Indianapolis: Wiley Publishing. ISBN 978-0470069097.

Juran, Joseph M. and Joseph A. De Feo. 2010. *Juran's Quality Handbook*. 6th ed. Mcgraw Hill. ISBN 978-0-07-162973-7.

AVAILABLE IN <https://knihovna-opac.tul.cz/#!/>

References

www.juran.com

www.iso.org

<https://www.efqm.org/>

<https://asq.org/>

Find out more professional literature and journal on:

<https://scholar.google.com/>

<https://books.google.com/>









(yes, it is a paper plane)



The idea of Quality



The Egyptians already understood the idea of quality: through **beauty**

Beauty draws humanity, and adds value to our lives (11,000 years ago)



Also through **functionality**

Functional quality of great engineering, **measurable**

The 5,000-year-old Great Pyramids are still standing, aren't they?



Aboriginal art, 5,000 B.C., Australian native tribes



The Stonehenge, 3,000 BC, Wiltshire, UK



Kaṇḍāriyā Mahādeva, 1,017 DC , Khajuraho, India



Buddhist Stupa Boudhanath, 1979, Katmandu, Nepal

What is Quality?

The Oxford Dictionary

quality *noun*

/'kwɒləti/

(pl. qualities)

(1) [uncountable, countable] **the standard of something** when it is **compared** to other things like it; **how good or bad** something is

- *to be of good/poor/top quality*
- *materials of a high quality*
- *high-quality materials*
- *a decline in water quality*
- *When costs are cut, product quality suffers.*
- *Their **quality of life** improved dramatically when they moved to North Carolina.*

(2) [uncountable] **a high standard**

synonym excellence

- *contemporary writers **of quality***
- *We aim to provide quality at reasonable prices.*
- *Get it right, even if it takes time; it's quality, not quantity, that matters.*

The Oxford Dictionary

quality *noun*

/'kwɒlətɪ/

(pl. qualities)

(3) [countable] a thing that is **part of a person's character**, especially **something good**

- *personal qualities* such as honesty and generosity
- to have *leadership qualities*
- *She has all the qualities of a good teacher.*
- *It's hard to find people with the right qualities for the job.*

(4) [countable, uncountable] a **feature of something**, especially one that makes it different from something else

- *the special quality of light and shade in her paintings*
- *His voice has a rich, melodic quality.*

Formal Definition: ISO 9001:2015

ISO 9001:2015 specifies requirements for a **quality management system** when an organization:

a) needs to demonstrate its **ability to consistently provide products and services** that **meet customer** and applicable statutory and regulatory **requirements**, and

b) aims to **enhance customer satisfaction** through the effective application of the system, including processes for improvement of the system and the **assurance of conformity to customer** and applicable statutory and regulatory **requirements**.

Some terms you may hear?

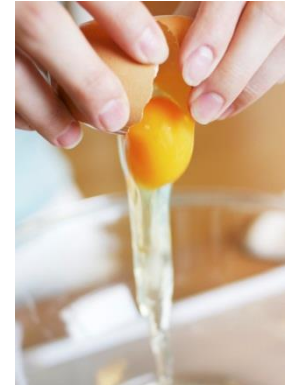
Quality Assurance

This is the *prevention* of defects before they happen

Following a recipe

Ensure the cake we bake is perfect first time and every time

Small upfront cost but zero scrap



Quality Control

This is the *detection* of defects after the event

- Implement an untried / unproven method
- Estimate the relative amount of eggs, flour and water and bake it
- Check to see if you have something edible
No upfront cost but many cakes thrown away.



Which of these are quality products?



PRIMARK®

GUCCI



Waitrose



Quality Dimensions

Performance:

Will the product/service do the intended job?

Reliability:

How often does the product/service fail?

Durability:

How long does the product/service last?

Serviceability:

How easy to repair the product / to solve the problems in service?

Aesthetics:

What does the product/service look/smell/sound/feel like?

Features:

What does the product do/ service give?

Perceived Quality:

What is the reputation of the company or its products/services?

Conformance to Standards:

Is the product/service made exactly as the designer/standard intended?

Area	Examples
Airlines	On-time, comfortable, low-cost service
Health Care	Correct diagnosis, minimum wait time, lower cost, security
Food Services	Good product, fast delivery, good environment
Postal Services	fast delivery, correct delivery, cost containment
Academia	Proper preparation for future, on-time knowledge delivery
Consumer Products	Properly made, defect-free, cost effective
Insurance	Payoff on time, reasonable cost
Military	Rapid deployment, decreased wages, no graft
Automotive	Defect-free
Communications	Clearer, faster, cheaper service

Quality Management in 3 Minutes

<https://www.youtube.com/watch?v=kao1K30LXEk>

Class Activity

- Make your own definition of quality
- What does the word QUALITY means for you?
- Do you already have any experience working on the position related somehow to quality? (quality control as a summer job, internship etc.)

Your homework for next lecture

- + course enrollment in the elearning platform
- + read the PDF document Introduction to Quality Management and answer the review questions by Sunday
- **General Instructions**
 - You can work in pairs.
 - Submit the homework (in WORD FILE) into the platform.
 - Submission the homework will be taken as an active attendance in the class.
- .

THANK YOU FOR YOUR ATTENTION

