



COURSE DATASHEET

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| Semester: | 2014/15/1 |
| Course: | SPC - Statistical Process Control and MSA |
| Code: | VEMKFOT145S |
| Responsible department: | Department of Process Engineering |
| Department code: | MKFO |
| Responsible instructor: | Dr. János Abonyi |

Course objectives:

The course's aim is to get acquainted with the tools of Statistical Process Control, be able to decide, to audit manufacturing processes and put forward a proposal for developing.

The course's aim is to get acquainted with planning of measuring system, the repairing methods, the requirements of car factory. Be able to apply this knowledge in the fields of manufacturing and quality cost's examination. In addition be capable of continuous developing and repairing of processes.

Course content:

Statistical process control.

Machine capability studies and concepts.

basic conditions of The machine capability study of the implementation

test preparation, implementation and evaluation.

Capability index C_m , C_{mk} , acceptance criteria.

defect types. of manufacturing process

Measured control card. Qualitative control card.

Intervention in the calculation and interpretation.

What does it mean and what does not the intervention limit mean?

When do you have to, when are you allowed to and when are you NOT allowed to intervene?

Process capability indices C_p , C_{pk} . Compliance criteria.

How to interpret a variety of skills indicators?

SPC-system - the implementation of the process.

SPC-relationship between quality management systems - ISO / TS 16949, ISO 9001.

What is MSA?

The ISO / TS 16949 requirements and MSA.

MSA or VDA5? (The U.S. and European measurement system analysis method.)

Structure of the MSA.

General requirements for measuring systems:

The statistical design of studies.

Type-1 study (repeatability, capability indices, minimum tolerance).

Type-2 study (GRR implementation and evaluation of conformity for criteria).

Qualitative measuring system studies

The valid MSA 4th edition differs from the previous version (s) from.



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Course content:

How to improve the statistical properties of a measurement system?

Requirements, evaluation and grading:

the conditions of the Fulfillment of sub-modules:

The written exam includes the full content of lectures and full content of note.

the conditions of the Fulfillment of the modul is the participation in the performance, write the test successfully and the submitting task, too.

Written assignment:

complete the test successfully, which contains 20 multiple-choice questions. (Required minimum level of 80%)

Submitting task :

Write a submitting task, which is the part of the 10 pages portfolio. This task is approved by the teacher.

During 2 semesters each submitting task should related to the same product and production process.

This task should summarize the implementation of the development work which is closely related to the content of the sub module.

Evaluation System:

-Pass: successful test and the submitting task accepted by the teacher

_FAil: failure of the test or the submitting tasks is not accepted by the teacher

Required and recommended readings:

Kemény Sándor: Statisztikai minőség-(megfelelőség) szabályozás, Műszaki Könyvkiadó, 2005

Csikós Istvánné, Juhász Tibor: Minőségtervezés irányítás statisztikai folyamatszabályozás, Complex Kiadó Kft., 1997

Gergely István: Méréstechnikai alapismeretek, Műszaki Könyvkiadó, 2004

Major László: Méréstechnika, Műszaki Könyvkiadó, 2004

Dr. Horváth Elek: Méréstechnika, Budapest Kiadó, 2010