

SYLLABUS

1. Course title:

PRODUCTION MEASUREMENTS AND CONTROL

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

4

5. Type of course: Mandatory Elective**6. Prerequisites:****7. Class restrictions:**

(max. 150 characters)

8. Duration / semester:

1

6

9. Weekly contact hours:

9.1. Lectures:

2

9.2. Seminars:

1

9.3. Laboratory/Practice classes:

0

10. Faculty:

Mechanical Faculty

11. Department/study program:

Production Mechanical Engineerin

12. Lecturer:

dr.sc. Emir Šarić, associate prof.

13. Lecturer's e-mail:

emir.saric@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

It is to understand international organization of metrology, aims and principles of measurements,

- to understand basic metrological characteristic of measuring instruments and systems
- to understand sources of process and measurements variation
- to understand and be able to apply basic tools for quality control of processes

16. Learning outcomes:

After learning course the students should be able to:

- statistically describe measurement results - mean value and error
- quantify measurement uncertainty
- perform MSA analysis and asses their adequacy
- design and analyze control charts of the process (X-chart, R-chart, S-chart)
- calculate and analyze capability indexes

17. Course content:

Definition of metrology, International organization, Uniformity in units of measurements, statistical analysis of measurement results, measurements error, systematic and random error, measurement uncertainty, uncertainty combination and evaluation, accuracy, precision, measurement system analysis (MSA), Mechanical metrology - instrumentation and measurement, Quality control, basic tools for Quality Control, Statistical process control (SPC), FMEA, Process variation and capability

18. Learning methods:

Lecture and Discussions: voice and Power point lecture notes
Practice: Numerical examples and homework handout problems
Seminar paper - summarized in report

19. Assessment methods:

Midterms exams during scheduled exam weeks
Final exam
Seminar paper
Activity during lectures

20. Assessment components:

2 tests (Computational tasks)	30 %
Seminar paper	20 %
Final exam (Theory)	45 %
Attendance and activity	5 %

21. Required reading list:

1. B.Ačko, Proizvodne Meritve, Fakultet za Strojništvo Maribor, 1999
2. K. Yang; B.El Haik, Design for Six Sigma, McGraw Hill
1. A.G.Grujović, Tehnička Merenja I-Osnovi teorije merenja, MF Kragujevac, Kragujevac 1999

22. Web sources:**23. Applicable starting from the academic year:**

2015/16

24. Adopted in the Faculty/Academy session:

01.06.2015