

SYLLABUS
for the discipline:

“BASIC APPLICATION KNOW-HOW”

FACULTY OF AUTOMATION AND COMPUTERS

DOMAIN/SPECIALIZATION: MASTER AUTOMOTIVE EMBEDDED SOFTWARE

Year of studies: I

Semester: 2

Course instructor: <i>Prof.dr.ing. Radu-Emil Precup</i>					
Applications instructor: <i>Prof.dr.ing. Radu-Emil Precup</i>					
Number of hours/week/Evaluation/Credits					
Course	Seminar	Laboratory	Project	Evaluation	Credits
21	0	0	21	0	8

A. COURSE OBJECTIVES

The course objective is to develop basic skills for managing and organizing projects. The course provides an overview about basic methods and techniques applied during the whole project lifecycle, from project initiation to project closure. The main target of this course is to teach future project managers the techniques and soft skills required for successfully leading projects. . The course contributes to the skills 1 (15 %), 2 (15 %), 3 (50%), and 4 (20%) from the skills table.

B. COURSE SUBJECTS (Total 21 hours)

1. What is a project? What makes a project successful? (Duration: 1h)
2. Project lifecycle phases: Initiation; Structure& Planning; Execution; Control; Closure (Duration: 1h)
3. Project Initiation: Project Targets; Project Organization; Project Resources; Role of Project Manager; Communication in the project; Stakeholder Analysis (Duration:3h)
4. Structure & Planning: Work Breakdown Structure; Work Package Estimation; Network Diagram; Critical Path Method; Project Schedule; Project Profitability (Financial topics);Risk Management (Duration:6h)
5. Monitoring & Controlling: Milestone Trend Analysis; Cost Trend Analysis; Earned Value Management; Project Reporting (Duration:3h)
6. Project Closure: Lessons Learned (Duration:1h)
7. Decision, Analysis & Resolution Process: Formal decision process (Duration:1h)
8. Quality Management: Quality Methods: Reviews, Audits, Metrics (Duration:2h)
9. Continuous Process Improvement: Process Maturity Models: CMMI, ISO/IEC 15504 – SPICE (Duration:3h)

C. APPLICATIONS SUBJECTS (laboratory, seminar, project) (Total 21 hours)

Project topics – total 21 hours

1. Project targets (Duration: 1h)
2. Project orgchart; Roles and responsibilities; (Duration: 3h)
3. Stakeholders Analysis (Duration: 3h)
4. Project Schedule (Duration: 6h)
5. Project Performance Indicators (Duration: 2h)
6. Risk Management (Duration: 2h)
7. Project Monitoring and Controlling (Duration: 2h)
8. Quality Management: audits, indicators (Duration: 2h)

D. REFERENCES

1. H. Kerzner, *Project Management – A System Approach to Planning, Scheduling and Controlling*; John Wiley & Sons, 2006.
2. Project Management Institute, *A Guide to the Project Management. Body of Knowledge*; Third ed., PMI, 2004.
3. R.S. Pressman, *Software Engineering: A Practitioner's Approach*; 6th ed., McGraw-Hill, 2005.
4. K.-H. Dietsche, M. Klingebiel, *Automotive Handbook*; Robert Bosch GmbH, Plochingen, 2007.
5. R.-E. Precup, St. Preitl, *Fuzzy Controllers*; Editura Orizonturi Universitare, Timișoara, 1999.

E. EVALUATION PROCEDURE

The students evaluation is done based on:

- their activity and contribution to fill-in the project theme requirements (the Project_Mark shall be ≥ 5),
- the mark obtained for the written evaluation (the WrittenEvaluation_Mark shall be ≥ 5).

The written evaluation is based on a list of 30 questions with multiple choices. For completing the project activity, the students shall be present in an active manner to all project sessions and shall implement the project requirements. The final mark is calculated as: $\text{Int}(0.4 \times \text{WrittenEvaluation_Mark} + 0.6 \times \text{Project_Mark} + 0.5)$ and shall be ≥ 5 .

F. INTERNATIONAL COMPATIBILITY

1. Massachusetts Institute of Technology, USA, <http://mitsloan.mit.edu/mba/program/courses.php>
2. Carnegie Mellon University: <http://ism.cmu.edu/Full-Time/Program/courseDesc.asp?95-700>
<http://www.heinz.cmu.edu/academics/course/description/91-844.html>
3. Berkeley University of California: <http://www.unex.berkeley.edu/cat/course638.html>

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