



INF321 - ADVANCED SOFTWARE ENGINEERING

OVERVIEW

CREDITS/UNITS : 3

PRE-REQUISITE : SOFTWARE ENGINEERING

GLOBAL GOAL

To learn and apply quantitative techniques for estimation, analysis, assessment and improvement of software quality and productivity.

SPECIFIC GOALS

At the end of the course the student will be able to:

- Size software by using metrics
- Use software productivity and quality models and techniques
- Estimate effort, time and costs required to develop software
- Apply software quality assurance techniques
- Apply software process improvement techniques
- Apply experimental software engineering techniques

CONTENTS

1. Software measurements
2. Software metrics: classical, function points, object oriented, use case points, story points
3. Software productivity and development effort estimation
4. Software quality: QA, Testing, measurements and models, quantitative management
5. Software process improvement: models, techniques, state-of-the-practice (CMMI)
6. Experimental Software Engineering

EVALUATION

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|----------------------------------------------------------------------------|------|
| In-class work, homework assignments, paper presentations, participation | 25 % |
| Research report and presentation | 15 % |
| 2 Exams | 60 % |

EXAMS

The exams will consider all the contents covered in classes, homework assignments and in-class work. The second exam will also include some content from the research reports and presentations.

RESEARCH REPORT AND PRESENTATION

During the semester the students will develop and present a research report on a subject assigned by the professor.

NOTE

All the reports, presentations, homeworks, and exams must be done in the best English possible. When needed, the students will be able to complement their work and answers in Spanish. There will be no penalty on grades for using some Spanish.

Prof. Dr. Marcello Visconti
Fall Semester 2015