Course Overview

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Course Language

- Slides are (mostly) in English
  - Speaking in Portuguese
- Exams are in Portuguese
  - You may answer in English if you wish
- Exercise, papers, final project, etc. might be in English or in Portuguese
  - You can do them either in English or in Portuguese as you wish

Bibliography

- I. Sommerville. **Software Engineering**, 9th Edition. Pearson, 2011.
- R. Pressman, B. Maxim. **Software Engineering: A Practitioner's Approach**, 8th Edition. McGraw-Hill Education, 2014.
- C. Wohlin et al. **Experimentation in Software Engineering**, Springer. 2012.
- M. Lanza e R. Marinescu. **Object-Oriented Metrics in Practice**. Springer, 2006.
- A. Koscianski, M. Soares, **Qualidade de Software**, 2a Edição. Novatec, 2007.
- M. Lorenz, J. Kidd. **Object Oriented Software Metrics**. Pearson Education, 1994.
- Other books and papers.

Assessment Criteria

- Undergraduate Students
  - 1st exam: 40 points
  - 2nd exam: 40 points
  - Exercises: 10 points
  - Papers (summary): 10 points

Assessment Criteria

- Graduate Students
  - 1st exam: 20 points
  - 2nd exam: 20 points
  - Exercises: 10 points
  - Papers presentation: 5 points
  - Summary of papers: 5 points
  - Final Project: 40 points

Dates of Exams

- 1st Exam
  - 21 of September
- 2nd Exam
  - 16 of November
- 3rd Exam (optional)
  - 23 of November

Dates may change

3rd Exam (optional)

- The 3rd exam is allowed to students with at least 30 points (sum of all activities)
  - It replaces 1st or 2nd exam
  - 20 pts (Graduate) or 40 pts (Undergrads)

- Which lectures to study?
  - If it replaces 1st exam: Lectures 1 to 12
  - If it replaces 2nd exam: Lectures 13 to 25

Presentation of Papers

- Each graduate student have to present a paper in the course
  - Each presentation should last between 20 to 30 minutes
- The list of papers is in the website
  - Allocation criteria is FIFO
  - Deadline for choosing your paper is **31/08**
- If you want to present a paper not in the list
  - You have to sent it to me by email
  - I have to approve it

Attendance

- Students who score 60 points or more are approved in the course
  - Regardless of their attendance to lectures
- Students who do not achieve 60 points have their attendance registered in the university system

Exercises

- We expect to have between 3 and 5 exercises in this course
- Sometimes, we may have exercises in laboratory
  - Booked: ICEx 2011 (and 2012)
  - If you arrive in the classroom and nobody shows up, go to the lab

Course Website and Email

- All course material and agenda are available in the course website
  - Link “Teaching (pt)” in my webpage

http://www.dcc.ufmg.br/~figueiredo/disciplinas

- Email: **ese.dcc@gmail.com**

Final Project
for Graduate Students

Final Project (Graduate)

- Graduate students have to do the final project alone
- Main tasks
  - To plan and execute an research work about software quality or software measurement
  - To write in a 15-page technical report (similar to a research paper)
  - To present the results in class

Submission Website

- EasyChair is a conference management system that has many features to make it suitable for various conference models
  - http://www.easychair.org/
  - You have to register at EasyChair
- Our event (WSE 2016.2)
  - 4th UFMG Workshop on Software Engineering
  - https://easychair.org/conferences/?conf=wse20162

Peer Review

- Graduate students are going to review two technical reports from colleagues
  - It simulates the reviewing process of a typical software engineering conference
- Reviews are double blind
  - Authors do not know who reviewed their papers
  - Reviewers do not know who wrote the papers they review

Workshop Days

- Each student has to present his/her research result in a workshop
  - Graduate students have to attend all days of the workshop
- Each presentation is expected to last between 20 to 25 minutes
  - The agenda of the workshop is going to be published at the course website

Dates for the Final Project

- Abstract (by EasyChair)
  - 31 of August
- Submission (by EasyChair)
  - 18 of November
- Peer Review
  - 21/11 to 25/11
- Workshop (Oral Presentation)
  - 28/11 and 30/11 (and 05/12)

Course Agenda

Main Topics (Part 1)

- Introduction to Software Quality and Measurement
- Empirical Strategies in Software Engineering
- Software Metrics
- Bad Smells and Detection Strategies

1st Exam

Main Topics (Part 2)

- Software Visualization
- Design Patterns and Idioms
- Software Engineering Principles
- Software Process Improvement

2nd Exam

Preliminary Agenda (Part 1)

1. Course Overview
2. Introduction to SQM
3. Exercise
4. Empirical Strategies
5. Software Product Metrics
6. Bad Smells and Refactoring
7. Detection Strategies

Preliminary Agenda (Part 1)

8. Concern-Sensitive Strategies
9. Exercise
10. Paper presentation
11. Review for the 1st Exam
12. **1st Exam**

Preliminary Agenda (Part 2)

13. Software Visualization
14. Design Patterns
15. Design Patterns
16. Architecture Patterns
17. Programming Idioms
18. Software Engineering Principles
19. Paper presentation

Preliminary Agenda (Part 2)

20. Software Project Estimations
21. Software Process Improvement
22. Paper Presentation
23. Exercise
24. Review for the 2nd Exam
25. **2nd Exam**

Preliminary Agenda (Part 3)

26. Review for the 3rd Exam
27. **3rd Exam**
28. Workshop: Final Project Presentation
29. Workshop: Final Project Presentation
30. Workshop: Final Project Presentation

Next Lecture (08/08)

- Introduction to Software Quality and Measurement
- Ian Sommerville. Software Engineering, 9th Edition. 2011.
  - Chapter 24
- Remember: university is closed on Wednesday (03/08)