

Course Overview

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Bibliography

- I. Sommerville. **Engenharia de Software**, 9a Edição. 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.

Laboratory

- Sometimes, we may have lectures in laboratory
 - Booked: ICEx 2011
- The first time we expect to go to lab is in 06 of April
 - If you arrive in class and nobody shows up, go to the laboratory

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

3rd Exam (optional)

- The 3rd exam is allowed to students with at least 40 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 13
 - If it replaces 2nd exam: Lectures 14 to 26

Dates of Exams

- 1st Exam
 - 15 of April
- 2nd Exam
 - 03 of June
- 3rd Exam (optional)
 - 10 of June

Dates may change

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 **30/03**
- 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

Final Project for Graduate Students

Final Project (Graduate)

- Only for graduate students
 - Alone (preferable) or in pairs
- 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 a workshop

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 2015)
 - 1st UFMG Workshop on Software Engineering
 - <https://easychair.org/conferences/?conf=wse20150>

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 two-day workshop
 - All graduate students have to attend both 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)
 - 01 of April
- Submission (by EasyChair)
 - 12 of June
- Peer Review
 - 15/06 to 19/06
- Workshop (Oral Presentation)
 - 22/06 and 24/06

[Course Agenda]

[Course Website]

- 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**

[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)]

- Design Patterns and Idioms
- Metrics for Software Reuse
- Product Quality vs. Process Quality
- Software Process Improvement

2nd Exam

[Preliminary Agenda (Part 1)]

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

[Preliminary Agenda (Part 1)]

8. Concern-Sensitive Metrics
9. Software Visualization
10. Exercise
11. Paper Presentation and Discussion
12. Review for the 1st Exam
13. **1st Exam**

[Preliminary Agenda (Part 2)]

14. Programming Idioms
15. Design Patterns
16. Architecture Patterns
17. Metrics for Software Reuse
18. Paper Presentation and Discussion
19. Software Process Quality
20. Software Process Estimations

[Preliminary Agenda (Part 2)]

21. Exercise
22. Software Process Improvement
23. Paper Presentation and Discussion
24. Exercise
25. Review for the 2nd Exam
26. **2nd Exam**

[Preliminary Agenda (Part 3)]

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

[Next Lecture]

- Introdução a Medição e Qualidade de Software
- Ian Sommerville. Engenharia de Software, 9a. Edição. 2011.
 - Capítulo 24