

# Configuration Management Course Outline

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# Introductions

- Who am I?
  - Leonardo Murta
  - <http://www.ic.uff.br/~leomurta>
- Who are you?
  - Name? Level (BSc, MSc, DSc)?
  - Job? Internship?
  - Research Area? Thesis topic? Advisor?
  - Previous experience with Configuration Management?
  - What you expect for this course?

# What is Configuration Management and Version Control?

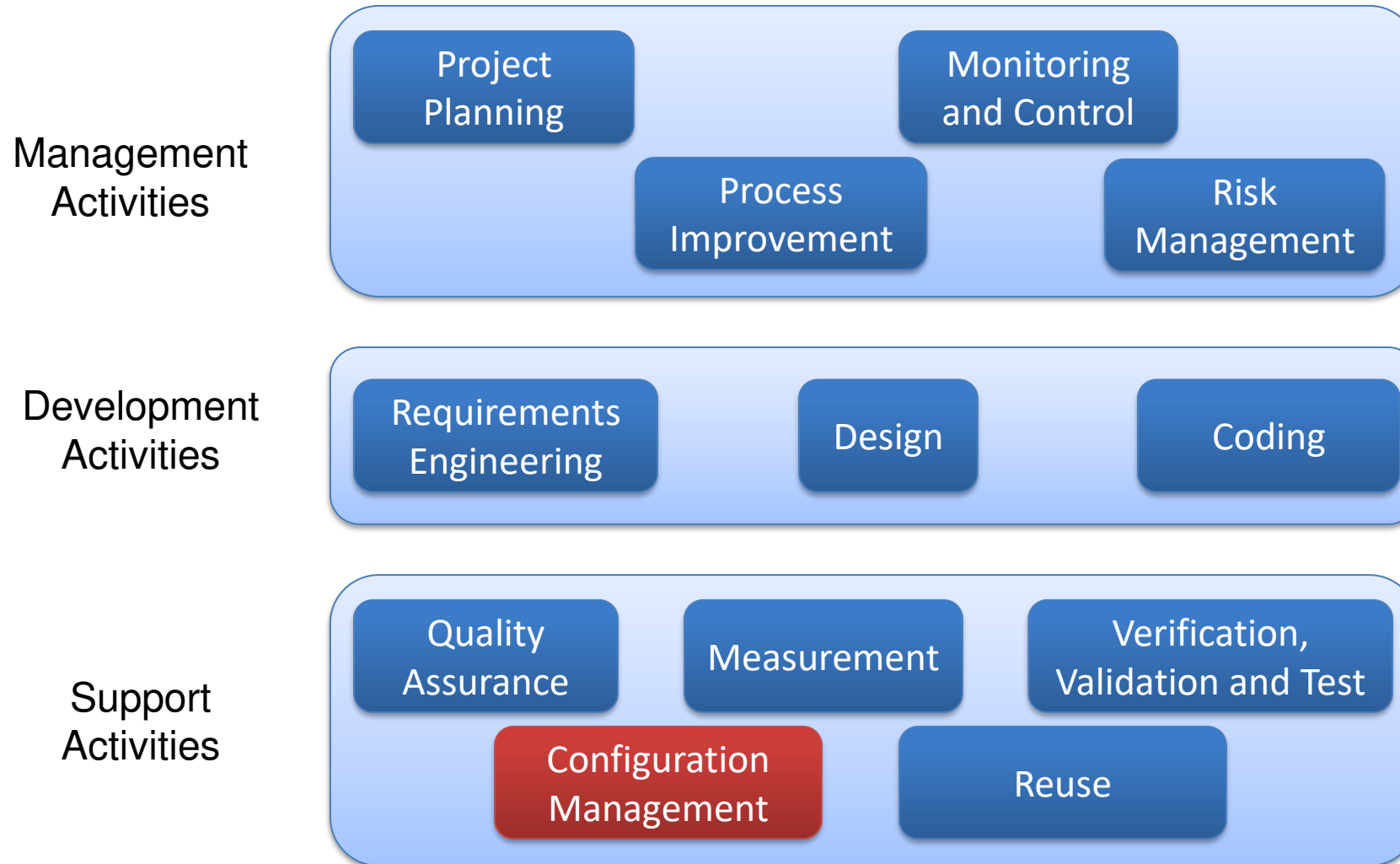
“**Configuration Management** is a discipline for **controlling the evolution** of software systems”

Susan Dart (1991)

“**Version control** is a system that **records changes** to a file or set of files **over time** so that you can recall specific versions later”

Scott Chacon and Ben Straub (2014)

# Software Engineering vs Configuration Management

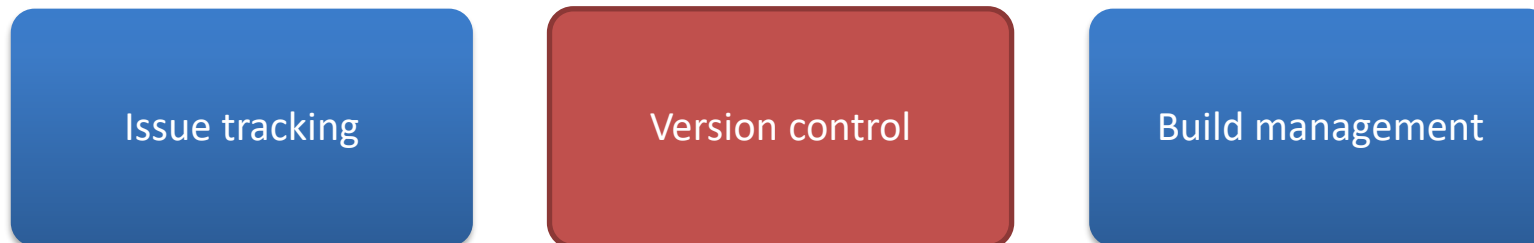


# Configuration Management vs Version Control

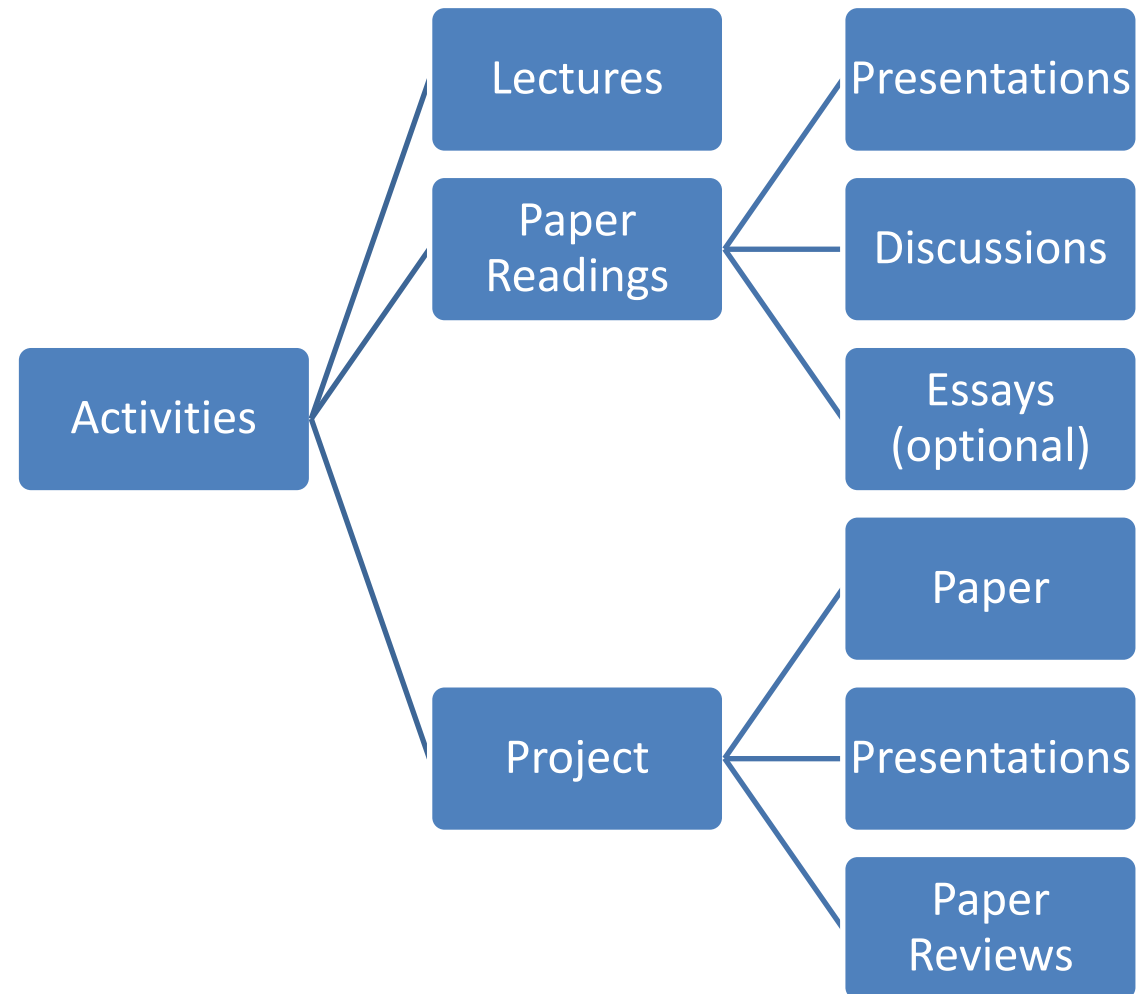
Processes  
(management  
perspective):



Systems  
(development  
perspective):



# Course Dynamics



# Course Dynamics

- Usual week
  - Wednesdays: lecture (me)
  - Fridays: paper presentation (you) and discussions (us)
- Project presentations week (x3)
  - Presentations about the ongoing work of the project
  - Three presentations during the course

# Reading topics

(one or two papers per topic)

1. Git (getting started)
2. Git (basics)
3. Git (branching)
4. Git (distributed)
5. Git (tools)
6. Git (internals)
7. Versioning
8. Merge
9. Branching
10. Repository Mining (promises and perils)



# Paper Presentation / Discussions

- All students should read all papers
- Each student will be in charge of presenting some papers (around three)
  - Send me ASAP five papers from the list (see site) sorted by preference
  - 30 minutes maximum
  - Using slides
  - Demos are welcome!
- The remaining students are supposed to ask questions, provide comments, and answer questions about the paper being presented
  - Deepness of the questions
  - Quality of the discussion
  - Intensity of the interaction

# Project

- Goal:
  - Apply Configuration Management over some other area
  - Apply some technique to support Configuration Management
  - Mine/Visualize Configuration Management repositories
  - Study some advanced Configuration Management technique or tool
  - Implement some Configuration Management algorithm
- Try to align the course project with your thesis theme
- It is important to define the project theme in the first weeks
  - The first seminar will occur in about a month!

# Project Paper

- Types of projects
  - Theoretical: focus on the literature and formal definitions
  - Implementation: focus on a tool and its evaluation
  - Analytical: study some phenomena usually by mining repositories
- Format:
  - 4 pages
  - ACM Style
- Content
  - Introduction: motivation and goal
  - Related work
  - Approach
  - Evaluation
  - Conclusion: contribution, limitation, and future work

# Project Presentations

- 1st round
  - Context
  - Methodology
- 2nd round
  - Work progress
  - Partial results
- Final round
  - Final results
  - Experience report

# Paper Reviews

- Papers will be submitted through a real conference management system, simulating a conference
- Each student will be a member of the program committee in this simulated conference, and will receive **around three papers to review**
- All authors will receive three anonymous reviews of their papers by the end of the course
- The reviews will not influence the score of the papers

# Essays

- Students that are not in charge of paper presentations in the week **may** individually write essays about the papers of the week
- Format: A4 page, font 12, margin of 2 cm, single spacing
- Content: paper title, student name, and the essay
- Students with final grade between 5.5 and 6.0 will have their essays graded, summing up to 0.5 points, eventually rounding the grade to 6.0

# Tentative Schedule

Data	Atividade	Entrega
24/08/2022	Aula - <b>Apresentação do curso</b>	
26/08/2022	Apresentações de Artigos (1a leitura)	Resumo (opcional)
31/08/2022	Aula	
02/09/2022	Apresentações de Artigos (2a leitura)	Resumo (opcional)
07/09/2022	<b>Sem Aula (Independência)</b>	
09/09/2022	Apresentações de Artigos (3a leitura)	Resumo (opcional)
14/09/2022	Aula	
16/09/2022	Apresentações de Artigos (4a leitura)	Resumo (opcional)
21/09/2022	Apresentações dos Trabalhos (1a rodada)	
23/09/2022	Apresentações dos Trabalhos (1a rodada)	
28/09/2022	Aula	
30/09/2022	Apresentações de Artigos (5a leitura)	Resumo (opcional)
05/10/2022	Aula	
07/10/2022	Apresentações de Artigos (6a leitura)	Resumo (opcional)
12/10/2022	<b>Sem Aula (Aparecida)</b>	
14/10/2022	Apresentações de Artigos (7a leitura)	Resumo (opcional)
19/10/2022	<b>Sem Aula (Agenda Acadêmica)</b>	
21/10/2022	<b>Sem Aula (Agenda Acadêmica)</b>	
26/10/2022	Aula	
28/10/2022	<b>Sem Aula (Servidor Público)</b>	
02/11/2022	<b>Sem Aula (Finados)</b>	
04/11/2022	Apresentações de Artigos (8a leitura)	Resumo (opcional)
09/11/2022	<b>Sem Aula (SBQS)</b>	
11/11/2022	<b>Sem Aula (SBQS)</b>	Vídeo
11/11/2022	Apresentações Assíncrona dos Trabalhos (2a rodada)	
16/11/2022	Aula	
18/11/2022	Apresentações de Artigos (9a leitura)	Resumo (opcional)
23/11/2022	Aula	
25/11/2022	Apresentações de Artigos (10a leitura)	Resumo (opcional) e Trabalho (submeter via <b>EasyChair</b> )
30/11/2022	Apresentações dos Trabalhos (3a rodada)	
02/12/2022	Apresentações dos Trabalhos (3a rodada)	Avaliação dos artigos (submeter via <b>EasyChair</b> )
07/12/2022	<b>Vista de avaliações na sala 528 (opcional)</b>	
09/12/2022	Verificação Suplementar (somente graduação)	
14/12/2022	<b>Vista da VS na sala 528 (opcional)</b>	

# Grading

$$\text{Score} = \frac{2 \times \text{Paper Presentations} + \text{Discussions} + 2 \times \text{Project Paper} + \text{Project Presentations} + \text{Reviews}}{7}$$

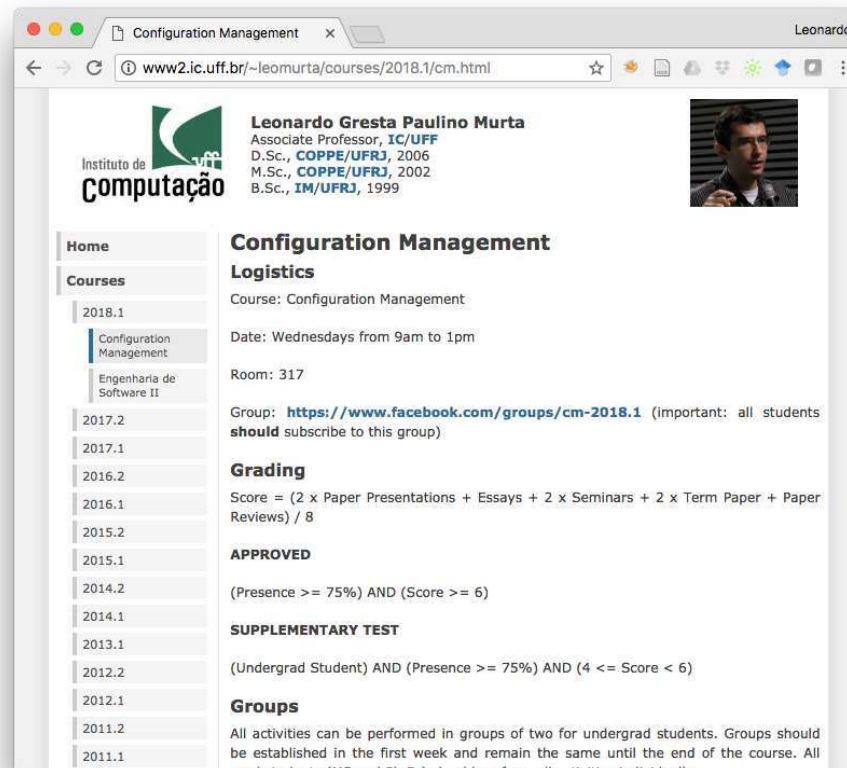
Approved if  $\text{Score} \geq 6$



# Important research tools...

- <http://scholar.google.com.br>
- <https://dblp.org>
- <http://www.scopus.com>
- <http://ieeexplore.ieee.org>
- <http://portal.acm.org>
- <https://www.periodicos.capes.gov.br>
  
- LaTeX editor: <http://www.overleaf.com>
- Reference management: <http://www.zotero.org>

# Course homepage

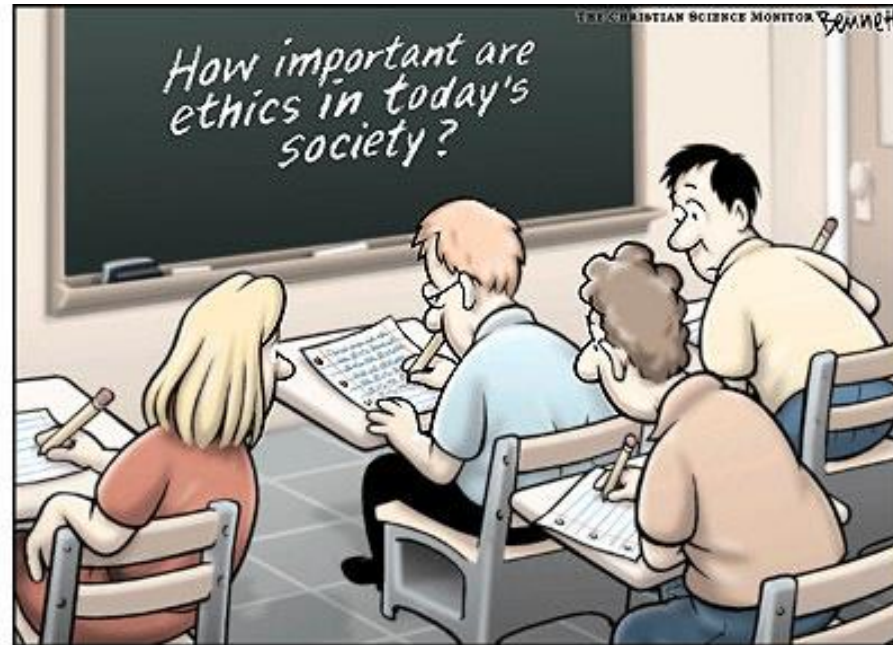


Read the course rules!!!

<http://www.ic.uff.br/~leomurta>

**Important:** all readings are available in our Google Classroom

# Fair Play!



<http://www.claybennett.com/pages/ethics.html>

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