



Business Process Management and Flexibility

Barbara Re, Phd



Lecturer - Contacts

Barbara Re, Phd

Computer Science Division

2 floor (Battibocca Palace)

barbara.re@unicam.it

<http://barbarare.wordpress.com/>



Who I am?

Education

- ▶ Bachelor and Master Degree in Computer Science
- ▶ Phd in Information Science and Complex System

Some Experiences

- ▶ I was visiting Phd at the Information School of University of Washington working with Dr. Hans J (Jochen) Scholl
- ▶ I was visiting Phd at the School of Business of University of Applied Sciences Northwestern Switzerland FHNW working with Prof. Knut Hinkelmann

Current Position

- ▶ Assistant Professor at University of Camerino



My Interests

Topics

- ▶ Applied Formal Methods
- ▶ Business Process Management: from Modeling to Analysis
- ▶ Flexibility in Process Aware Information Systems
- ▶ Methodologies and Technologies for Smart Government and Ambient Assisted Living development

Some Projects Experiences

- ▶ Learn PAd (Model-Based Social Learning for Public Administrations) EU FP7 ICT project
- ▶ OCP (Open City Platform) MIUR project
- ▶ PAss (Private Assisted House) Regione Marche project



What about you?



Business Process Management and Flexibility

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Course Objective

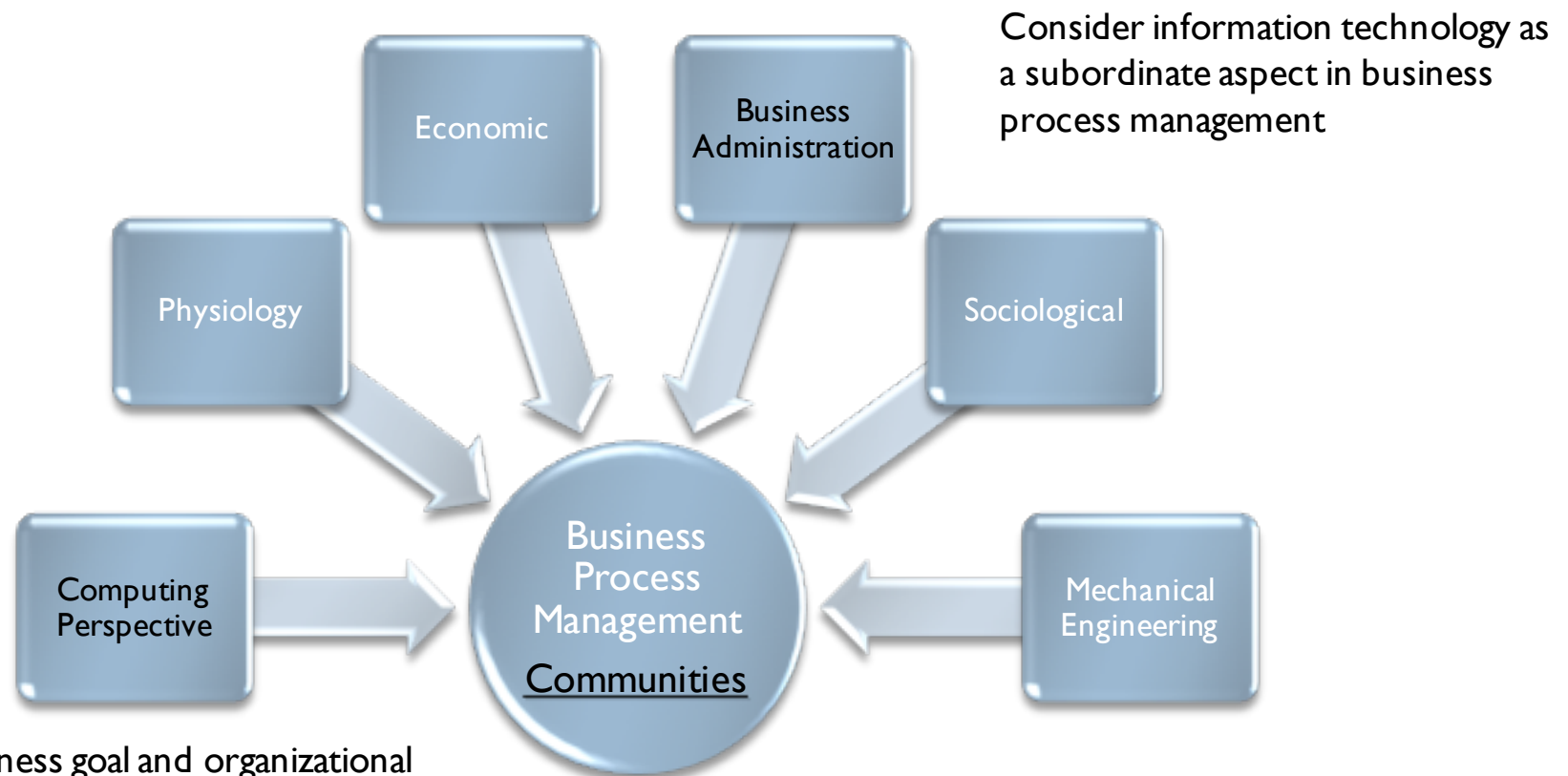
- ▶ The course presents **enterprise information systems** that are driven by models, i.e., instead of constructing code these systems are **assembled, configured** or **generated** using a **model-driven approach**
- ▶ The course focus on the so-called "**process-aware**" **information systems** to better understand the impact of the **modelling** of business processes both **in static and dynamic environment**
- ▶ The course introduces all relevant state-of-the-art concepts, methods and technologies **enabling process flexibility**, e.g., process **configuration, exception handling, ad-hoc process** changes, process schema **evolution**

Learning Outcome

- ▶ Understand the importance of Business Process and Business Process Management
- ▶ Gain some familiarity with business process terminology
- ▶ Know most common techniques of Business Process modelling and be familiar with Business Process Management tools with a particular emphasis on Business Process flexibility
- ▶ Apply Business Process Management into practical case studies

Focus

Different educational background and interests are in place



Consider business goal and organizational regulations as terms that do not deserve much thought, but require the appropriate level of abstraction

Syllabus

▶ Introduction to Business Process Management

- ▶ Process Everywhere
- ▶ Business Process Model and Instances
- ▶ Business Process Life-Cycle
- ▶ Classification of Business Process

▶ Business Process Modelling

- ▶ Conceptual models and abstraction mechanisms
- ▶ Control Flow Patterns
- ▶ Modelling Languages: Petri nets, Workflow nets and workflow modules, YetAnother Workflow Language, Event-driven Process Chains and **Business Process Modelling Notation 2.0 (BPMN)**
- ▶ Model Understandability
- ▶ Modelling Environments

▶ Business Process Analysis

- ▶ Verifying Pre-specified Process Models: Process Model Soundness and Correctness of Data Flow
- ▶ Process Model Formalization
- ▶ Verification into practice

▶ Flexibility Issues in Process-Aware Information Systems

- ▶ Perspectives on a Process-Aware Information System
- ▶ Pre-specified and Repetitive Processes and Knowledge-Intensive Processes
- ▶ Variability, Looseness, Adaptation, Evolution
- ▶ Process Modelling & Flexibility-by-Design

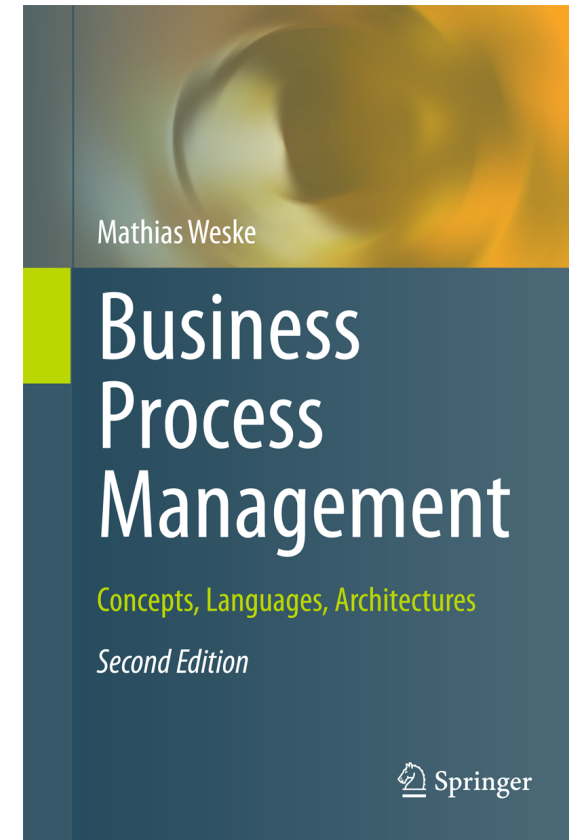
Reference Textbook (I)

- ▶ Dumas, Marlon, et al. Fundamentals of business process management. Heidelberg: Springer, 2013.



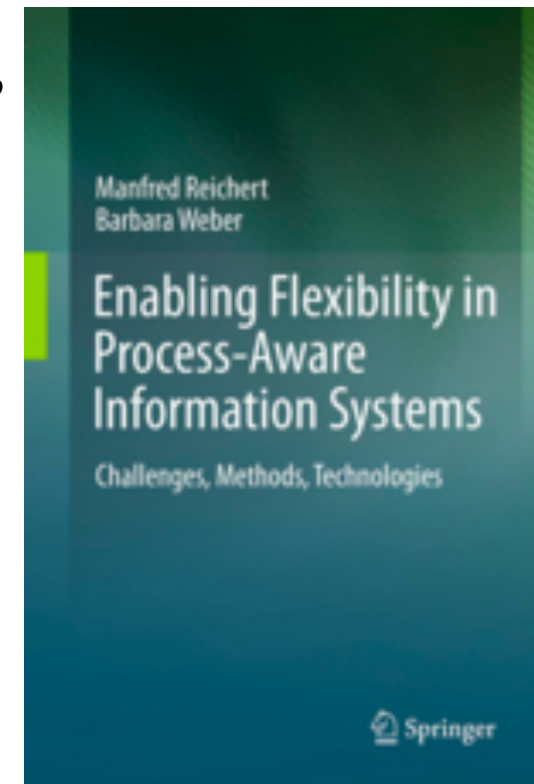
Reference Textbook (II)

- ▶ **Business Process Management.**
Concepts, Languages, Architectures.
Weske, Mathias 2007, XIV, 368 p. 265
illus.. ISBN: 9780321155559.



Reference Textbook (II)

- ▶ Reichert, Manfred, and Barbara Weber. Enabling flexibility in process-aware information systems: challenges, methods, technologies. Springer, 2012.



Further material

- ▶ Business Process Model And Notation (BPMN) Version 2.0 - <http://www.omg.org/spec/BPMN/2.0/>
- ▶ BPMN 2.0 by example - <http://www.omg.org/spec/BPMN/20100601/10-06-02.pdf>
- ▶ Other lecture notes and research papers, selected during the course (all of them are already/will be available on the web-site)

Teaching and Learning Methods

- ▶ 42 h - lecture and exercise sessions
 - ▶ Monday: 15:00 am – 17:00 am
 - ▶ Thursday: 11:00 am – 13:00 am



Eventually Some Stop!

October 20 (Carrier Day)

- ▶ Private study: reading and exploring



Some more info

- ▶ All relevant information is available on-line

http://didattica.cs.unicam.it/doku.php?id=didattica:magistrale:bpmf:ay_1617:main



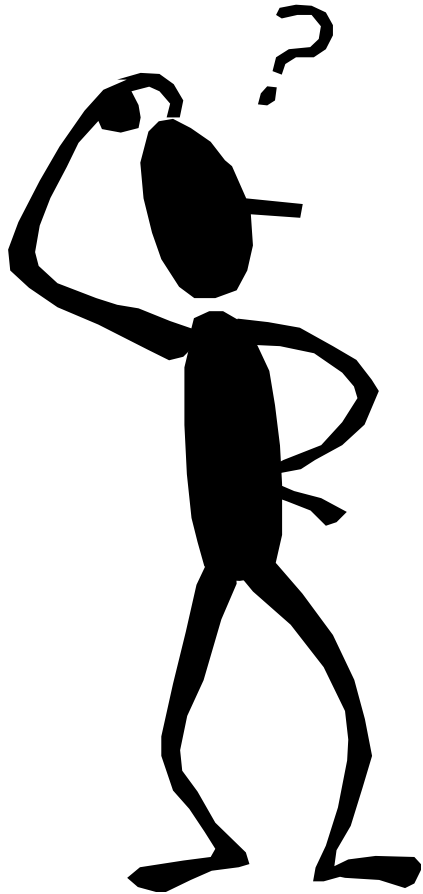
Assessment

Writing Examination on the topics of the syllabus

- ▶ Open or multiple-choice questions + Exercise
- ▶ 2 h

Date (<https://didattica.unicam.it/Home.do>)

- ▶ 31/01/2017 - 09:00
- ▶ 06/02/2017 - 11:30
- ▶ 21/02/2017 - 11:30
- ▶ 20/06/2017 - 11:30
- ▶ 11/07/2017 - 11:30
- ▶ 19/09/2017 - 11:30
- ▶ 30/01/2018 - 11:30
- ▶ 13/02/2018 - 11:30



Questions?