INFO-H420
Management of Data Science and Business Workflows
Preliminaries

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About this course

Two parts:

- Part I: Business Workflows
  - Also known as Business Process Management (BPM)
  - Introduces the discipline of modeling, analyzing, automating, and monitoring business workflows

- Part II: Data Science Workflows
  - Also known as Data-Intensive Pipelines
  - Introduces the core concepts around defining, executing, monitoring, and analyzing data science workflows
  - Also introduces concepts of Responsible Data Science (ML bias, algorithmic fairness, explainable AI, data privacy)

A unifying viewpoint:

Workflows = a **sequence** of **tasks** to achieve a greater **goal**

Structure of the course

12 lectures + 10 practice sessions

- Part I (Business Workflows) takes 7 lectures
    - Process Identification
    - Process Modeling
    - Process Analysis
    - Process Redesign
    - Process Automation
    - Process Mining

- Part II (Data Science Workflows) takes 5 lectures
    - Big Data Ecosystem
    - Data Science Workflows
    - Responsible Data Science

Grading

Final Grade (20) = Assignments (12) + Exam (8)

- 4 **assignments** for a total of **12** marks (each contributes 3 marks)
  - 2 assignments on Part I; 2 assignments on Part II
  - All assignments must be submitted to pass the course
  - Minimum score to pass course is 40% in each assignment

- Written **exam** for a total of **8** marks
  - Minimum score to pass course is 40%

Course Schedule (tentative)

Date	Lectures	Room	Date	Practice Session	Room	Assignments	Announcement	Due
2023-09-18	Lecture 1	S.DC2.206						
2023-09-22	Lecture 2	S.UB4.132	2023-09-25	Practice 1	S.UB4.130			
2023-09-29	Lecture 3	S.UB4.132	2023-10-02	Practice 2	S.UB4.130	Assignment 1	2023-10-02	2023-10-16
2023-10-06	Lecture 4	S.UB4.132	2023-10-09	Practice 3	S.UB4.130			
2023-10-13	Lecture 5	S.UB4.132	2023-10-16	Practice 4	S.UB4.130	Assignment 2	2023-10-16	2023-10-30
2023-10-20	Lecture 6	S.UB4.132	2023-10-23	Practice 5	S.UB4.130			
2023-10-27	Lecture 7	S.UB4.132	2023-10-30	Practice 6	S.UB4.130			
2023-11-03	Lecture 8	S.UB4.132	2023-11-06	Practice 7	S.UB4.126	Assignment 3	2023-11-06	2023-11-20
2023-11-10	Lecture 9	S.UB4.132	*2023-11-17*	Practice 8	S.UB4.126			
2023-11-24	Lecture 10	S.UB4.132	2023-11-27	Practice 9	S.UB4.126	Assignment 4	2023-11-27	2023-12-11
2023-12-01	Lecture 11	S.UB4.132	2023-12-04	Practice 10	S.UB4.126			
2023-12-08	Lecture 12	S.UB4.132	2023-12-11	Backup				
2023-12-15	Backup							

Course Information

- Lectures and Practice Sessions will be **live-streamed** in Microsoft Teams.
  - **Recordings** will be made available shortly after the live stream.

- All information will be available in **UV** (Université Virtuelle)
  https://uv.ulb.ac.be/course/view.php?id=116804

- All info in UV **supersedes** any other source, including the ULB schedule (http://ulb.be/en/schedules).

- Communication will be via the **Discussion Forum** in UV.

- **Textbook** for Part I
  - Dumas, La Rosa, Mendling & Reijers: *Fundamentals of Business Process Management (second edition)*, Springer 2018
  - available at Cible+ (https://cibleplus.ulb.ac.be)