

*KNOWDIVE*



**KGE - Knowledge Graph Engineering**

# **Course Organization**

Objectives

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# Contents

**1** What you will learn

2 Prerequisites

3 Course modality

4 Exam modality

# Objectives

- What is a Knowledge Graph (KG), and how a KG is composed.
- What KGs can be used for. Applications currently exploiting KGs.
- What does it mean to build a KG. The **problems** to be solved, the **effort** required, and how to minimize such effort using dedicated **solutions**.

# Activities

- How to solve the different problems involved in KG construction.
- How to use new and existing tools and libraries to address such problems.
- How to develop an entire project of KG Engineering (KGE) on real-world case studies

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# Prerequisites

- Data management: basic programming skills in python and/or java/javascript.
- Databases modeling: ER modeling, (Ontology modeling if possible, Ontology definition desirable).
- Attitude to teamwork.

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# Theory

## *The theory enables the practice*

The theory lectures will be focused on:

- (First part of the course) Introduction to KG and KGE.
- (Second part of the course) iTelos, a methodology for KGE.



# Practice

The course practical activities apply the iTelos methodology in real-world case studies.

- The practical activities are scheduled in parallel with the theory lectures.
- The students (grouped in teams) will have to conduct an entire KGE project (focused on real case studies assigned by tutors).

# Following the course

- Theory and practice will go on in parallel.
- The theoretical lectures will describe the problems and the solutions, proposed by the iTelos methodology; that will be then immediately applied in practice over the projects assigned.

For this reason:

- The course requires the **student's presence in the classroom** for the theoretical lectures.
- A **strong cooperation** between the team members is required to carry on the project's development along the course.

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# Intermediate evaluations

- After the completion of each iTelos phase (both concerning theory and practice) the students will have to provide an **intermediate report** of the work done so far.
- The intermediate evaluation will allow the tutors to lead the teams towards the right direction by correcting possible errors during the methodology implementation.

# Final evaluation

- The final exam will consist of a presentation of the KGE projects developed along the course and finalized achieving the output required by the initial purpose.
- Additional questions will be asked by the tutors over the both the course theory and practice.



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