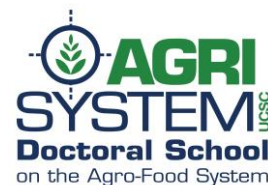# UNDERSTANDING AND PRACTICING BIBLIOMETRIC ANALYSIS WITH BIBLIOMETRIX AND BIBLIOSHINY

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Course Aims
The course aims to provide the fundamentals of Graph Theory and Social Network Analysis (SNA) applied to bibliometric data. In particular, at the end of this course, students are able to collect bibliometric data and to carry out descriptive and science mapping analysis (using SNA tools) of the bibliometric dataset, aiming at performing a literature analysis and review.

Methodology
Lectures and Lab

Course description
The course consists of two modules. The first module will provide the basic concepts concerning graphs and social network analysis (SNA), specifically: - graph main concepts and graph representation using matrix; - graph, subgraph and directed graph and their main characteristics; - measures of a graph; - file formats for representing a graph. The second module is structured in practical labs, providing an introduction to the use of a specific software application for performing a literature analysis (i.e. bibliometrix and biblioshiny: https://www.bibliometrix.org/home/index.php/layout/bibliometrix). The practical labs include: - Data collection, databases, and bibliometric metadata - Data set creation, development of query, biblioshiny overview - Descriptive analysis, focus on domain (Journals/Sources, Authors, Documents) - Science mapping analysis (Conceptual K-structures, Intellectual K-structures, Social K-structures) - Bibliographic Coupling (Co-occurrence networks, Co-word, Co-citation) Accordingly, students will apply key concepts and develop a final assignment on a topic of their interest, which they will present at the end of the course, with feedback and evaluation provided throughout the process.

Recommended texts
Scientific papers, slides, lecture notes, and the textbook reference provided by the lecturers