

Academic Year: (2021 / 2022)

Review date: 02-06-2021

Department assigned to the subject: Library and Information Sciences Department

Coordinating teacher: SANZ CASADO, ELIAS

Type: Compulsory ECTS Credits : 6.0

Year : 4 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Having completed the course in statistics.

OBJECTIVES

1. To understand the basic bibliometric concepts for analysing and understanding the scientific literature on this type of studies.
2. To understand and to apply the methodology used in the bibliometric analysis:
 - 2.1. Designing processes collecting data from various sources.
 - 2.2. Extracting and normalizing data from different information sources with bibliometric interest.
 - 2.3. Understanding and managing tools, as well as the application of statistical knowledge in the analysis and research evaluation of research groups, institutions, disciplines and countries.
 - 2.4. To identify and to obtain the most appropriate indicators for analysis and evaluation of scientific activity.
5. To analyze the role played by the results obtained from bibliometric indicators, drawing conclusions about the different actors involved in the scientific system

DESCRIPTION OF CONTENTS: PROGRAMME

In this course we explain the theoretical aspects of bibliometric studies. The main information sources with interest for bibliometric data collection, analysis and assessment. Theoretical and practical aspects of bibliometric laws involved in the evaluation of scientific and technological and information center management.

1. Basic concepts of bibliometry
 - 1. Science and the development of scientific communication
 - 1.1. Premises of bibliometric studies
 - 1.2. Development of science
 - 1.3. Library and information science
 - 1.4. Generation and dissemination of scientific knowledge
 - 2: Origin and historical evolution of Bibliometrics
 - 2.1. Origin and historical evolution of Bibliometrics
 - 2.2. Current situation
 - 3: Bibliometrics: introduction and related areas
 - 3.1. Definition and objectives of Bibliometrics
 - 3.2. Types of Bibliometrics analysis
 - 3.3. Scientific disciplines related to Bibliometrics
 - 2. Bibliometric sources bibliometric with interest
 - 4: Primary and secondary information sources
 - 4.1. Sources clasification
 - 4.2. Primary sources of information
 - 4.3. Secondary sources of information
 - 5: Citation indexes
 - 5.1. WoS
 - 5.2. Scopus
 - 6: Citations and bibliographic references: impact and visibility
 - 6.1. Citations and bibliographic references: concepts
 - 6.2. Motivations for citation
 - 6.3. Citation analysis
 - 6.4. Impact Factor
 - 6.5 Inmediacy Index

- 6.6.H Index
- 6.7. Influence of sources Index
- 3. Bibliometrics Laws
 - 7: Growth of science
 - 8: Obsolescence
 - 9: Bradford's Law
 - 10. Zipf's Law
 - 11: Productivity
- 4. Herramientas y aplicaciones de la Bibliometría
 - 12: Bibliometric indicators
- 12.1. Definition and Features.
- 12.2. Classification
 - 12.2.1. Scientific production.
 - 12.2.2. Collaboration.
 - 12.2.3. Impact
 - 12.2.4. Visibility.
- 13: Bibliometric applications

LEARNING ACTIVITIES AND METHODOLOGY

Acquisition of theoretical and practical knowledge (4 ECTS) through theoretical classes, teaching materials prepared by the teacher, online tutorials, specialized readings and commentary on the readings, as well as students' personal study.

It relates to the competences 1, 2 and 3.

Acquisition of skills and abilities (2 credits) through practices that apply data collection techniques of the most important information sources and application of bibliometric indicators with specific software.

Information collected from international databases (Web of Science, Medline, etc.) and application software.

It relates to the competences 4 and 5.

ASSESSMENT SYSTEM

Assessment system takes into account the personal follow up that it has been conducted of the student, in practical classes, seminars and tutorials, assessment of work practices, and conducting an examination or academic writing. The final exam accounts for 60% of the final grade.

The practical work, practical exercises and feedback from the readings, contribute 40% to the final qualification.

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

BASIC BIBLIOGRAPHY

- EGGHE, L. Methodological aspects of bibliometrics, Library Sciences with a slant to Documentation, (1988) vol 25, 179-191
- GLÄNZEL, W. BIBLIOMETRICS AS A RESEARCH FIELD A course on theory and application of bibliometric indicators, COURSE HANDOUTS, 2003
- PRICE, D. J. d. S. Little Science, Big Science, New York: Columbia Univ. Press, 1963
- REHN, C.; KRONMAN, U. Bibliometric handbook for Karolinska Institutet, Karolinska Institutet University Library, 2008
- REHN, O.; DOLENC, J.; SCHNABL, J. A brief visual history of research metrics, Infozone S. , 2016
- SANZ-CASADO, E.; DE Filippo, Rafael Aleixandre-Benavent Guía metodológica para la creación de una clasificación de revistas en ciencias humanas y sociales, destinada a las agencias de evaluación del mérito docente e investigador, Edición Fundación Española para la Ciencia y la Tecnología (FECYT), e-NIPO: 057-17-127-2, 2017
- TODESCHINI, R.; BACCINI, A. Handbook of bibliometrics indicators: quantitative tools for studying and evaluating research. , John Wiley & Sons, 2016

ADDITIONAL BIBLIOGRAPHY

- ALONSO AREVALO, L.; CORDÓN GARCÍA, J.A.; MALTRÁS BARBA, B. Altimetrics: medición de la influencia de los medios en el impacto social de la investigación, Gredos, 2016
- BRADFORD, S.C. Documentation, London: Crosby Lockwood, 1948
- BUNGE, M. La ciencia, su método y su filosofía, Buenos Aires: Siglo Veinte , 1968
- COLE, J. R., y COLE, S. The Ortega hypothesis, Science (1972) 178, p. 368..

- HIRSCH, J. Un índice bibliométrico para cuantificar la producción de un investigador individual. , Proceedings of the National Academy of Sciences of the United States of America (2005) 102 (46), 16569-16572 .
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- MALTRÁS, B. Los indicadores bibliométricos: fundamentos y aplicación al análisis de la ciencia , Trea, 2003
- NEDERHOF, A.J. Bibliometric monitoring of research performance in the Social Sciences and the Humanities: A review, Scientometrics, Vol. 66, No. 1 (2006) 81¿100.
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- SANZ CASADO, E. y MARTÍN MORENO, C. Técnicas bibliométricas aplicadas a los estudios de usuarios. , Revista General de Información y Documentación (1997), vol. 7, nº. 2, p. 41-68.
- WOUTERS, P. Eugene Garfield (1925-2017), Nature, 112, 6, 2017