

Guía docente de la asignatura

Fecha de aprobación por la Comisión Académica: 19/07/2023

## Métodos Par la Investigación en Dirección en Empresas (MA9/56/6/42)

### Máster

Máster Doble: Máster Universitario en Ingeniería de Caminos, Canales y Puertos + Máster Universitario en Economía / Economics

### MÓDULO

Asignaturas del Máster Economía/Economics

### RAMA

Ingeniería y Arquitectura

### CENTRO RESPONSABLE DEL TÍTULO

Escuela Internacional de Posgrado

Semestre	Primero	Créditos	4	Tipo	Obligatorio	Tipo de enseñanza	Presencial
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### PRERREQUISITOS Y/O RECOMENDACIONES

Not applicable.

### BREVE DESCRIPCIÓN DE CONTENIDOS (Según memoria de verificación del Máster)

- Design of surveys.
- Samples and questionnaires in management research.
- Scales selection and composition.
- Assessment of measures.
- Exploratory and confirmatory factor analysis.
- Data analysis and model design: structural equation modeling (SEM).

### COMPETENCIAS

#### COMPETENCIAS BÁSICAS

- CB6 - Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en desarrollo y/o aplicación de ideas, a menudo en un contexto de



investigación.

- CB7 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio.
- CB8 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios.
- CB9 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades.
- CB10 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.

### COMPETENCIAS GENERALES

- CG01 - Que al alumno obtenga capacidad de análisis y síntesis, lo cual implica ser capaz de definir, distinguir y relacionar tanto los conceptos básicos como las premisas sobre las que se construye la exposición de cualquier argumento, así como de enunciar y fundamentar su contenido de forma sintética y crítica, en el contexto científico, político, económico, organizacional o del tipo que sea- en el que se presentan.

### COMPETENCIAS ESPECÍFICAS

- CE02 - Adquirir información bibliográfica sobre el estado actual de la investigación empresarial
- CE03 - Comprender las teorías, tendencias y debates relevantes existentes
- CE04 - Aplicar y extender las teorías existentes para solucionar problemas reales
- CE06 - Formular y contestar cuestiones de manera aplicable a estrategias empresariales
- CE12 - Planificar y organizar estudios de diagnóstico empresarial
- CE19 - Asistir como personal de apoyo en proyectos de consultoría
- CE20 - Elaborar artículos científicos
- CE21 - Elaborar informes de consultoría adaptados a sus posibles usuarios

### COMPETENCIAS TRANSVERSALES

- CT01 - Que los estudiantes hayan demostrado una comprensión sistemática de un campo de estudio y el dominio de las habilidades y métodos de investigación relacionados con dicho campo;
- CT02 - Que los estudiantes hayan demostrado la capacidad de concebir, diseñar, poner en práctica y adoptar un proceso sustancial de investigación con seriedad académica;
- CT04 - Que los estudiantes sean capaces de realizar un análisis crítico, evaluación y síntesis de ideas nuevas y complejas;
- CT05 - Que los estudiantes sepan comunicarse con sus colegas, con la comunidad académica en su conjunto y con la sociedad en general acerca de sus áreas de conocimiento;

## RESULTADOS DE APRENDIZAJE (Objetivos)



- Understand the relevance of notational analysis as a research technique in economics and management, through the use of different methods of data analysis.
- Know some research lines within notational analysis in the management field.
- Develop the empirical part of a research project based on quantitative analysis, by designing questionnaires, performing measures assessment, evaluating measures validity, assessing expert opinions, etc.
- Value the importance of surveys design and validation, sampling techniques and processes of data collection and practical implementation.

## PROGRAMA DE CONTENIDOS TEÓRICOS Y PRÁCTICOS

### TEÓRICO

#### Chapter 1. Questionnaire design for different types of surveys

1. Response process.
2. Measuring attitudes.
3. Testing questionnaires.
4. Self-administered questionnaires.
5. Survey error.
6. Survey mode.
7. Mixed mode surveys.

#### Chapter 2. Design of samples and related problems in management research

1. Notation
2. Some sampling designs in management research.
3. Survey estimation strategy.
4. The problem of missing data in management research.
  - Survey non-response: unit non-response and item non-response.
  - Consequences: bias and variance.
  - Non-response mechanisms: MCAR; MAR; Ignorable and Non-ignorable missingness.
  - Weighting.
  - Imputation: deterministic and stochastic imputation, imputation classes.

#### Chapter 3. Measurement validation, PLS path modeling and model evaluation.

1. Introduction.
2. Exploratory factor analysis.
3. Reflective and formative constructs.
4. Confirmatory factor analysis.
5. Evaluation of measurement model.
6. Building structural models.
7. Evaluation of structural model.
8. Moderation and mediation.

### PRÁCTICO

The practical syllabus is integrated in the theory syllabus.



## BIBLIOGRAFÍA

### BIBLIOGRAFÍA FUNDAMENTAL

- Cochran, W.G. (1977). *Sampling Techniques*. 3rd ed. New York: Wiley.
- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics*. 4th edition. SAGE Publications.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. SAGE Publications.
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### BIBLIOGRAFÍA COMPLEMENTARIA

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- Wolter, K.M. (2007) Introduction to Variance Estimation. Second Edition. Springer.

## ENLACES RECOMENDADOS

- <https://www.r-project.org/>
- <https://www.rstudio.com/products/rstudio/download/>
- <https://www.smartpls.com/>
- <https://www.ibm.com/products/spss-statistics>
- <http://forum.smartpls.com/viewtopic.php?f=5&t=14062>
- <https://aulavirtual.ugr.es>
- <https://www.bls.gov>
- <http://ec.europa.eu/eurostat/web/main/home>
- <https://ec.europa.eu/eurostat/web/main/home>
- <http://ine.es>
- <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/>
- <http://metodoscuantitativos.ugr.es/>
- <http://www.bde.es/webbde/es/>

## METODOLOGÍA DOCENTE

- MD01 Lección magistral/expositiva
- MD02 Sesiones de discusión y debate
- MD03 Resolución de problemas y estudio de casos prácticos
- MD05 Seminarios
- MD08 Realización de trabajos en grupo
- MD09 Realización de trabajos individuales

## EVALUACIÓN (instrumentos de evaluación, criterios de evaluación y porcentaje sobre la calificación final)

### EVALUACIÓN ORDINARIA

Article 17 of the UGR Assessment Policy and Regulations establishes that the ordinary



assessment system (evaluación ordinaria) will preferably be based on the continuous assessment of students, except for those who have been granted the right to a single final assessment (evaluación única final, which is an assessment method that only takes a final exam into account).

In the **continuous assessment system**, there will be diverse assessment tools, conducted mostly on an ongoing evaluation of the following aspects (the weight of each item of the evaluation is shown in parentheses):

- Sessions' attendance and active participation (15%)
  - Class attending is measured as the percentage of attended sessions within total sessions (NOTE: If applicable, attendance to seminars specifically related to the course are compulsory).
  - Active participation is measured through remarkable contributions, presentations and/or answers to quizzes during the sessions.
- Exercises development and resolution (individually or in teams) (25%)
- Tasks and/or projects (individually or in teams) (10%)
- Written exam (50%). There will be an exam in 3 parts (corresponding to every chapter). It is necessary to get a **minimum mark of 4 (out of 10) in every part** to assess the final exam mark (weighted sum of the 3 parts). The exam is considered passed if the result of the weighted sum is equal or above 5 (out of 10).

## EVALUACIÓN EXTRAORDINARIA

Article 19 of the UGR Assessment Policy and Regulations establishes that **students who have not passed** the course in the ordinary assessment system (evaluación ordinaria) will have access to an extraordinary assessment session (evaluación extraordinaria), in which they will have the opportunity to obtain 100% of their global mark by means of a single exam.

The assessment in this **exam** will comprise:

- Exam with objective questions referred to the theoretical content (50%). The exam is considered passed if the result of the weighted sum is equal or above 5 (out of 10).
- Test with several practical questions (50%).

## EVALUACIÓN ÚNICA FINAL

Article 8 of the UGR Assessment Policy and Regulations establishes that **students who are unable to follow the continuous assessment system** (evaluación ordinaria) due to justifiable reasons shall have recourse to a single final assessment (evaluación única final), by taking a final single exam.

In order to opt for a single final assessment (evaluación única final), students must send a request addressed to the coordinator of the master's programme, by using the corresponding online procedure (<https://sede.ugr.es/procs/Gestion-Academica-Solicitud-de-evaluacion-unica-final/>), and in the first two weeks of the course (or in the two weeks following their enrolment, when the enrolment takes place after the beginning of the course' sessions).

For **students authorized** to do a **single final assessment**, the assessment will comprise:

- Exam with objective questions referred to the theoretical content (50%). The exam is considered passed if the result of the weighted sum is equal or above 5 (out of 10).



- Practical test(s), exercises and/or problems to be solved individually and handed-in to the professors (50%).

### INFORMACIÓN ADICIONAL

Not applicable.

Información de interés para estudiantado con discapacidad y/o Necesidades Específicas de Apoyo Educativo (NEAE): [Gestión de servicios y apoyos](https://ve.ugr.es/servicios/atencion-social/estudiantes-con-discapacidad) (<https://ve.ugr.es/servicios/atencion-social/estudiantes-con-discapacidad>).

