

Guía docente de la asignatura

**Métodos Par la Investigación  
en Dirección en Empresas**Fecha última actualización: 19/07/2021  
Fecha de aprobación por la Comisión  
Académica: 26/07/2021**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**

Optativa

**Tipo de  
enseñanza**

Presencial

**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

- 1.1. Response process.
- 1.2. Measuring attitudes.
- 1.3. Testing questionnaires.
- 1.4. Self-administered questionnaires.
- 1.5. Survey error.
- 1.6. Survey mode.
- 1.7. Mixed mode surveys.

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

- 2.1. Notation
- 2.2. Some sampling designs in management research.
- 2.3. Survey estimation strategy.
- 2.4. The problem of missing data in management research.
  - 2.4.1. Survey non-response: unit non-response and item non-response.
  - 2.4.2. Consequences: bias and variance.
  - 2.4.3. Non-response mechanisms: MCAR; MAR; Ignorable and Non-ignorable missingness.
  - 2.4.4. Weighting.
  - 2.4.5. Imputation: deterministic and stochastic imputation, imputation classes.

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



- 3.1. Introduction.
- 3.2. Exploratory factor analysis.
- 3.2. Reflective and formative constructs.
- 3.2. Confirmatory factor analysis.
- 3.3. Evaluation of measurement model.
- 3.4. Building structural models.
- 3.5. Evaluation of structural model.
- 3.6. Moderation and mediation.

## PRÁCTICO

The practical syllabus is integrated in the theory syllabus.

## BIBLIOGRAFÍA

### BIBLIOGRAFÍA FUNDAMENTAL

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### BIBLIOGRAFÍA COMPLEMENTARIA



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## ENLACES RECOMENDADOS

- <https://www.smartpls.com/>
- <http://forum.smartpls.com/viewtopic.php?f=5&t=14062>
- <https://www.bls.gov>
- <http://ec.europa.eu/eurostat/web/main/home>
- <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>
- <http://ine.es>
- <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/>
- <http://metodoscuantitativos.ugr.es/>
- <http://www.bde.es/webbde/es/>
- <http://www.bolsamadrid.es/homei.htm>



- <http://www.anuarieco.lacaixa.comunicacions.com>
- <http://descargar.portalprogramas.com/gretl.html>
- <http://gretl.softonic.com/>
- <https://www.r-project.org/>
- <https://www.rstudio.com/products/rstudio/download/>

## 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 session (convocatoria 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 of the student's training. The assessment will comprise (the weight of each item in the final assessment is shown in parentheses):

- Sessions' attendance and active participation (15%)
  1. Class attending is measured as the percentage of attended sessions within total sessions. Attendance to seminars specifically related to this subject is compulsory (if applicable).
  2. Active participation is measured through remarkable contributions, exercises' presentation and answers to quizzes during the sessions. Among other pieces of evidence, the teacher may rely on Kahoot application (or similar) to measure responses to quizzes and class attendance (<https://kahoot.com/what-is-kahoot/>).
- Exercises development and resolution (individually or in teams) (25%)
- Works and projects developed (individually or in teams) (10%)
- Written exam based on theoretical and/or practical contents (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 weighted sum in order to obtain the exam global mark. The exam is considered passed if the result of the weighted sum is equal or above 5 out of 10.

### DATES OF EVALUATION

**Ordinary assessment session:** Date of the evaluation will be fixed no longer than 2 weeks after



the end of the lecture period, and at least 15 days before the exam.

## EVALUACIÓN EXTRAORDINARIA

Article 19 of the UGR Assessment Policy and Regulations establishes that students who have not passed a course in the ordinary assessment session (convocatoria ordinaria) will have access to an extraordinary assessment session (convocatoria extraordinaria). All students may take part in this extraordinary assessment session, regardless of whether or not they have followed continuous assessment activities. In this way, students who have not carried out continuous assessment activities will have the opportunity to obtain 100% of their mark by means of an exam and/or assignment.

Students who failed in the first call (ordinary) should take a special exam. The assessment will comprise:

- Theoretical exam with 15-20 objective questions referred to the theoretical content (50%).
- Test with several practical questions, in which the knowledge acquired can be applied (50%).

## DATES OF EVALUATION

**Extraordinary assessment session:** Date of the evaluation will be fixed in July of the academic year, and communicated in advance.

## EVALUACIÓN ÚNICA FINAL

Article 8 of the UGR Assessment Policy and Regulations establishes that students who are unable to follow continuous assessment methods due to justifiable reasons shall have recourse to a single final assessment (evaluación única final), which is an assessment method that only takes a final exam into account.

In order to opt for a single final assessment (evaluación única final), students must send a request, using the corresponding online procedure (<https://sede.ugr.es/procs/Gestion-Academica-Solicitud-de-evaluacion-unica-final/>), to the coordinator of the master's programme, in the first two weeks of the course or in the two weeks following their enrolment (if the enrolment has taken place after the classes have already begun). The coordinator will communicate this information to the relevant teaching staff members, citing and verifying the reasons why the student is unable to follow the continuous assessment system.

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

- Test with 15-20 objective questions referred to the theoretical content (50%).
- Practical test(s), exercises and/or problems to be solved individually and handed-in to the professors (50%).

## INFORMACIÓN ADICIONAL

Not applicable.

