Universitat de Lleida

DEGREE CURRICULUM

INFERENTIAL STATISTICS IN PSYCHOLOGY

Coordination: MARCH LLANES, JAUME

Academic year 2023-24

Subject's general information

Subject name	INFERENTIAL STATISTICS IN PSYCHOLOGY
Code	102909
Semester	1st Q(SEMESTER) CONTINUED EVALUATION

Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Psychology	2	COMPULSORY	Attendance-based

Course number of credits (ECTS)	6

Type of activity, credits, and groups	Activity type	PRAULA	TEORIA
	Number of credits	2.4	3.6
	Number of groups	2	1

Coordination	MARCH LLANES, JAUME
Department	PSYCHOLOGY, SOCIOLOGY AND SOCIAL WORK
Important information on data processing	Consult this link for more information.

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
MARCH LLANES, JAUME	jaume.march@udl.cat	8,4	arranged by mail

Learning objectives

1. Know the steps involved in the Psychological Assessment and the processes it encompasses.
2. Know how to reason about the need to have Psychometric Scientific Evidence on the measuring instruments we can use for Psychological Assessment.
3. Distinguish between the typical measurement instruments of the interview, natural observation, self-reports, tests and other more objective tests such as neuropsychological ones.
4. Know the role that Psychometry plays in providing evidence on the instruments most used in each area.
5. Know the basics of measurement in Psychology.
6. Know how to create the type of items appropriate to the need for the required information.
7. Create a questionnaire providing the information required by the main rubrics.
8. Historically situate the beginnings of Psychometrics and know the principles of the Classic Theory of Tests and their involvement in the concepts of Reliability and Validity.
9. Knowing how to choose and calculate the most appropriate Reliability indicators based on a specific case.
10. Knowing how to choose and calculate the most appropriate indicators of Validity based on a specific case.
11. Understand the basic reasoning of Item Response Theory.
12. Regulatory interpretation and writing of the return report.

Competences

Basic skills:

CB1 Owning and understanding knowledge in a study area that is based on the general secondary education base, and it is often found at a level that, while supported by advanced textbooks, also includes some aspects that involve relevant knowledge from the vanguard of his field of study.

CB2 Apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

CB3 Ability to gather and interpret relevant data (usually within its area of study) to issue judgments that reflect on relevant issues of a social, scientific or ethical nature.

CB4 Power to convey information, ideas, problems and solutions to a specialized and non-specialized audience.

General Competences:

CG1 Develop the ability to adapt to new situations and solve problems in an effective way.

CG2 Develop the ability to work in multidisciplinary teams and collaborate efficiently with other professionals.

CG3 Show abilities for interpersonal relationships.

CG5 Demonstrate critical capacity to make relevant decisions.

CG6 Reflect on own limitations in a self-critical way, considering the possibility of requesting interdisciplinary collaborations.

CG7 Act with creativity, research culture and professional communication.

CG9 Recognize diversity and difference as a structural element of the human being, while recognizing, understanding and respecting the cultural complexity of today's society.

Specific Competences:

CE1 Identify and analyze the characteristics and needs of people, groups and organizations, as well as relevant contexts for the requested service.

CE2 Plan the evaluation of programs and / or psychological interventions, selecting Indicators and appropriate techniques.

CE4 Analyze and interpret the results of the psychological evaluation.

CE6 Respond and act appropriately and professionally, taking into account the attitudes and values of the profession, as well as its ethical and ethical code, in each and every one of the intervention processes.

CE7 Provide information to users and establish an appropriate interpersonal relationship, taking into account the different contexts of professional relationship.

CE8 Prepare technical reports, oral and written, about the results of the process of evaluation, research or services demanded, respecting the ethical commitment that demands the dissemination of psychological knowledge.

CE9 Use the different documentary sources in psychology, show a mastery of the strategies necessary to access information and assess the need for documentary update.

CE10 Manage, analyze and interpret data in the frameworks of disciplinary knowledge typical of the different fields of psychology.

CE11 Making decisions critically about the choice, application and interpretation of the results derived from the different methods of psychological research.

CE12 Disseminate knowledge derived from the theoretical reviews and the results of psychological research.

Transversal Competences:

CT1 Acquire adequate oral and written comprehension and expression of Catalan and Spanish.

CT3 Acquire training in the use of new technologies and information and communication technologies.

CT5 Acquire essential notions of scientific thought.

Subject contents

1. The Psychological Assessment.
o Definition and historical approach
o Psychological assessment models
o The psychological evaluation process
o Information collection techniques: Documentary research, Observation, Interview, Survey, Objective, subjective and projective techniques.
2. Psychometric techniques: Tests.

3. Approach to the practical part of the subject: Psychometrics applied with jamovi

4. Analysis of the items.

5. From the Classic Test Theory to the Standards for Educational and Psychological Testing (AERA/APA/NCME) for the Validation of an instrument.

6. Arguments about the Reliability of a questionnaire.

7. Arguments about the validity of a questionnaire.

8. Theory of the Response to the item.

9. The Psychological Assessment: Regulatory interpretation and writing of the return report.

Methodology

- 1. Master classes based on reverse classroom. From practical necessity to theory.

  2. Problem-based learning.

  3. Use of software.

  4. Non-contact activities.

Development plan

SETMANA	Dmt 15-17 Grup A	Dmc 17-19 Grup Gran	Dj 15-17 Grup B	TASCA
01		7*	8*	
02	13*	14*	15*	
03	20*	21*	22*	
04	27*	28	29	Examen BLOC 1.
05	5	6	7	
06	12	13	14	Recuperació Examen BLOC 1.
07	19	20	21	Lliurament 1 Jaume
08	2	3	4	
09	9	10	11	
10	16	17	18	
11	23	24	25	Lliurament 2 Jaume
12	30	1	2	
13	7	8	9	
14	14*	15*	16*	
15	21*	22*		Lliurament 3 Jaume
16				Lliurament treball BLOC 1
17				
18				Recuperació treball BLOC 1.

* = BLOC 1

Evaluation

ORDINARY EVALUATION

Type of test % of week grade

1 Test test + 2 questions to develop 20 04

2 Test test + practical exercises with jamovi 40 16

3 Practical activity: Instrument creation 05 07

4 Practical activity: Reliability 10 11

5 Practical activity: Validity 10 15

6 Practical activity: Normative interpretation 10 16

7 Participation 05

Jaume March Tests: 2-3-4-5-7; Olga Malas Tests: 1-6

1.- Test test + 2 questions to develop

In-person exam (20% of the final grade): This test will be taken during week 4 and will address both the theoretical and practical contents of this blog. It will consist of 20 multiple choice questions with 4 answer options (50% of the grade) and 2 questions to be developed in writing (50% of the grade). The exam must be taken in person with pencil and paper.

2.- Test test + practical exercises with jamovi.

In-person test in a computer room. This test, which represents 40%, requires exceeding 4.5 to average and pass the subject.

3-4-5 They consist of practical tests to be taken during the practices, there is no minimum grade, nor, therefore, recovery.

6.- Practical activity: Normative interpretation

Written work (10% of the final grade): Students, individually, will have to present a written work that will be delivered online through the Virtual Campus during week 16. This work will consist of a feedback report on the results of the evaluation.

7.- Participation

The CV needs to have a photo of the student in order to be evaluated... or to give one to the teacher.

Evidence 2 and 6 aim to evaluate the degree of acquisition and quality of the knowledge and skills necessary for this block. To pass the subject, the student will have to obtain a score equal to or greater than 5 out of 10 in both evaluation tests. If you receive a score less than 5 in any of these parts, it will result in suspension of the subject. It must be taken into account that, since minimum grades are established and the sum gives a total score of 30% (20% for the exam and 10% for the work), these are recoverable.

Recoveries for both parties will take place during weeks 6 and 18 respectively. Recovery evidence will follow the same format and requirements as those specified by the initial evaluation evidence.

ALTERNATIVE EVALUATION

The alternative evaluation contains the same tests as the ordinary evaluation, but the deliveries will be, all 4, in week 16, and test 7 in the alternative evaluation will refer to the tutorials carried out.

In alternative assessment it is essential to contact the teaching staff to establish the exact chronology of tests at the beginning of the course and see the possibility of teamwork between alternative assessment students. If this initial tutoring does not exist, it will appear "not presented" in TESTS 3, Four. Five.

Bibliography

Recommended bibliography:

Navarro DJ and Foxcroft DR (2019). learning statistics with jamovi: a tutorial for psychology students and other beginners. (Version 0.70). DOI: 10.24384/hgc3-7p15

Miguel Ángel Martínez González (dir.), Almudena Sánchez Villegas (dir.), Estefanía Toledo Atucha (dir.), Francisco Javier Faulín Fajardo (dir.) Bioestadística amigable. Elsevier España. 2014 ISBN: 978-84-9022-500-4

https://www.jamovi.org/

Basic bibliography:

Zaiats V., Calle L., Presas, R. (1998) Probabilitat i estadística: exercicis I. Vic : Eumo. Només capítol 4

Zaiats V., Calle L. (2001) Probabilitat i estadística: exercicis II. Bellaterra : Universitat Autònoma de Barcelona. Tots els capítols (del 5 a 9)

Introductory bibliography:

Aron, A. i Aron, E.N. (2001) Estadística para Psicología. Buenos Aires: Pearson Educación,

Botella, J., León. D.G. & San Martín, R. (2001). Análisis de datos en psicología I. Madrid: Pirámide.

Domènech, J.M. y Granero, R. (2008). Anàlisi de dades en Psicologia per a la recerca en Psicologia. Vol. 1: Fonaments. Barcelona: Signo.

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Guàrdia, J.; Freixa, M.; Peró, M. & Turbany, J. (2008). Análisis de Datos en Psicología (2ª Edición). Madrid: Delta.

Losilla, J.M., Navarro, J.B., Palmer, A., Rodrigo, M.F. y Ato, M. (2005). Del contraste de hipótesis al modelado estadístico. Girona: Documenta Universitaria (EAP, S.L.). ISBN: 84-96367-19-3

Salafranca, Ll., Sierra, V., Núñez, M.I., Solanas, A. & Leiva, D. (2005). Análisis estadístico mediante aplicaciones informáticas. SPSS, StatGraphics, Minitab y Excel. Barcelona: Edicions de la Universitat de Barcelona.

Spiegel, M. (2001). Teoría y problemas de probabilidad y estadística. México: McGraw-Hill.