

26303 - Statistics

Syllabus Information

Academic Year: 2020/21

Subject: 26303 - Statistics

Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 295 - Degree in Physical Activity and Sports Science

ECTS: 6.0

Year: 1

Semester: First semester

Subject Type: Basic Education

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, seminars, autonomous work and tutorials.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

4.2.Learning tasks

The course includes the following learning tasks:

- **Lectures.** Teachers will use the support of audiovisual and computer resources when appropriate, and also will seek interaction with students. Maximum 50% of the classes.
- **Practice sessions.** Solving techniques of exercises and problems using computers, or manually, will be taught in class. Students must solve autonomously the proposed problems and write the solutions. At least 30% of the classes.
- **Seminars.** In these seminars students pose doubts and difficulties that have been found, so that the teacher's role will be to give specific instructions to unblock the situation. At least 20% of classes.
- **Tutorials.** Personal tutorials scheduled by the teacher.
- **Autonomous work.** Individual study will allow to settle the concepts explained in the classes as well as learn and

properly apply the techniques explained. Students must handle other literature proposed by the teacher, in addition to the lecture notes. They also must dedicate a significant part of their time to solving the proposed exercises.

4.3.Syllabus

The course will address the following topics:

- Topic I. Introduction to research of physical activity
 - I.1. Clarification conceptual: science, research and scientific method.
 - I.2. Paradigms of social science research.
 - I.3. Science Research Paradigms of physical activity and sport.
 - I.4 Research in Physical Education: The qualitative and quantitative methods in physical activities.
- Topic II. Application of qualitative research of physical activity and sport methodology
 - II.1. Overview and characteristics of qualitative methodology.
 - II.2. Research designs in qualitative methodology. Criteria
 - II.3. Credibility of qualitative methodology.
 - II.4. Techniques and research tools in qualitative methodology.
- Topic III. Development of research reports
 - III.1. The investigation report.
 - III.2. Structuring the object of study.
 - III.3. planning, organization and development of analysis and data processing.
- Topic IV. Introduction to Statistics
 - IV.1. Introduction.
 - IV.2. Random phenomena and deterministic phenomena.
- Topic V. Descriptive statistics
 - V.1. Introduction.
 - V.2. Statistical variables. Types.
 - V.3. Graphic representations.
 - V.4. Moments. Centralization measures. Measures of dispersion, other measures.
 - V.5. Twodimensional frequency distribution. Measures of association.
 - V.6. Simple linear regression. Regression lines. Linear correlation coefficient.
- Topic VI. Inferential statistics
 - VI.1. Introduction.
 - VI.2. Point estimation of parameters.
 - VI.3. Confidence interval estimation.
 - VI.4. Hypothesis testing.

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of Health and Sports Sciences website.

4.5.Bibliography and recommended resources

- Fernández Cuesta, Carlos. Curso de estadística descriptiva : teoría y práctica / Carlos Fernández Cuesta y Felipe Fuentes García . [1a ed.] Barcelona : Ariel, 1995
- Ríos, Sixto. Métodos estadísticos / Sixto Ríos . 2a ed. Madrid : Ediciones del Castillo, 1977 (1985 imp.)
- Kazmier, Leonard J.. Estadística aplicada a la administración y a la economía / Leonard J. Kazmier, Alfredo Díaz Mata . 2ª ed. rev. México : McGraw-Hill Interamericana de Mexico, 1993
- Viladot Voegeli, Antonio. Lecciones básicas de biomecánica del aparato locomotor / Antonio Viladot Voegeli ; prólogo, D. Ruano Gil . Reimp. Barcelona : Masson, 2004
- Barriopedro, María Isabel. Análisis de datos en las ciencias de la actividad física y el deporte / María Isabel Barriopedro, Carlos Muniesa . Madrid : Pirámide, 2012
- Martín Pliego, Francisco Javier. Introducción a la estadística económica y empresarial : teoría y práctica / Fco. Javier Martín-Pliego López . 3a. ed. rev. y act. / por Marta García Secades Madrid : Thomson, D.L. 2004