

**COURSE DATA****DATA SUBJECT****Code:** 33230**Name:** Specific applications for athletics training**Cycle:** Undergraduate Studies**ECTS Credits:** 6**Academic year:** 2025-26**STUDY (S)**

Degree	Center	Acad. year	Period
1312 - Degree in Physical Activity and Sport Sciences	Facultat de Ciències de l'Activitat Física i Esports	4	First quarter
1331 - Degree in Physical Activity and Sport Sciences (Ont)	Facultat de Ciències de l'Activitat Física i Esports	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1312 - Degree in Physical Activity and Sport Sciences	Applications for athletics training	ELECTIVES
1331 - Degree in Physical Activity and Sport Sciences (Ont)	Aplicación específica al entrenamiento en Atletismo	ELECTIVES

COORDINATION

MONTROYA VIECO ANTONIO

SUMMARY

The Subject APPLICATION SPECIFIC TRAINING IN TRACK AND FIELD, is an optional subject, quarterly, with a workload of 6 ECTS credits taught in the 4th Academic year of Grade in of Physical Activity and Sport Sciences.

Athletics is one of the most traditional individual sports in the context of sports performance. The Course presents and analyzes athletic techniques from the perspective of the Sport Performance and the appropriate tools and techniques for the design of training plans in the groups of events in Track and Field: Running, Jumping and Throwing.

PREVIOUS KNOWLEDGE



RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

COMPETENCES / LEARNING OUTCOMES

1312 - Degree in Physical Activity and Sport Sciences

Aplicar las tecnologías de la información y comunicación (TIC) al ámbito del entrenamiento deportivo.

Aplicar los principios fisiológicos, biomecánicos, comportamentales y sociales, a los diferentes campos de la actividad física y el deporte.

Apply information and communication technologies (ICT) to the field of sports training.

Apply information and communication technologies (ICTs) in the field of physical activity and sport sciences.

Apply physiological, biomechanical, behavioural and social principles to the different fields of physical activity and sport.

Apply the principles of fundamental rights, gender equality, equal opportunities, universal accessibility for people with disabilities, solidarity, environmental protection, the culture of peace and democratic values.

Conocer y comprender los fundamentos del entrenamiento deportivo en deportes individuales.

Design, implement and evaluate the teaching-learning processes related to physical activity and sport, paying attention to the individual, collective and contextual characteristics of people.

Develop habits of professional excellence and quality.

Develop leadership, interpersonal and teamwork skills.

Know and understand the fundamentals of physical fitness for physical activity and sport.

Know and understand the fundamentals of sports training in individual sports.

Know the use and suitability of health products linked to nursing care, paying special attention to differences according to age and gender.

Plan, implement and evaluate physical activity and sports programmes targeted at special populations.

Plan, implement and evaluate training programmes in athletic disciplines.

Planificar, desarrollar y evaluar la realización de programas de entrenamiento de especialidades atléticas.

Promote and evaluate the acquisition of enduring and autonomous habits of practising physical activity and sport.



Select and know how to use sports material and equipment, suitable for each type of activity and population.

1331 - Degree in Physical Activity and Sport Sciences (Ont)

Aplicar las tecnologías de la información y comunicación (TIC) al ámbito del entrenamiento deportivo.

Aplicar los principios fisiológicos, biomecánicos, comportamentales y sociales, a los diferentes campos de la actividad física y el deporte.

Apply information and communication technologies (ICT) to the field of sports training.

Apply information and communication technologies (ICTs) in the field of physical activity and sport sciences.

Apply physiological, biomechanical, behavioural and social principles to the different fields of physical activity and sport.

Apply the principles of fundamental rights, gender equality, equal opportunities, universal accessibility for people with disabilities, solidarity, environmental protection, the culture of peace and democratic values.

Conocer y comprender los fundamentos del entrenamiento deportivo en deportes individuales.

Design, implement and evaluate the teaching-learning processes related to physical activity and sport, paying attention to the individual, collective and contextual characteristics of people.

Develop habits of professional excellence and quality.

Develop leadership, interpersonal and teamwork skills.

Know and understand the fundamentals of physical fitness for physical activity and sport.

Know and understand the fundamentals of sports training in individual sports.

Know the use and suitability of health products linked to nursing care, paying special attention to differences according to age and gender.

Plan, implement and evaluate physical activity and sports programmes targeted at special populations.

Plan, implement and evaluate training programmes in athletic disciplines.

Planificar, desarrollar y evaluar la realización de programas de entrenamiento de especialidades atléticas.

Promote and evaluate the acquisition of enduring and autonomous habits of practising physical activity and sport.

Select and know how to use sports material and equipment, suitable for each type of activity and population.



DESCRIPTION OF CONTENTS

1. UNIT 1: BASIC CHARACTERISTICS OF TRACK AND FIELD TRAINING.

- 1.1.- Evolution of Training in Individual Sports.
- 1.2.- Training in Individual Sports: from Initiation to High Performance in Track and Field.

2. UNIT 2: PLANNING OF TRAINING IN TRACK AND FIELD

- 2.1.- Specific planning models.
- 2.2.- Structure Plan Training athletic modalities.
- 2.3.- Fundamentals of scientific advances in the training of strength and endurance and its practical application to training in athletics.

3. UNIT 3: PRACTICAL APPLICATIONS TO TRAINING IN SPRINT AND HURDLES

- 3.1.- Basis for Techniques in sprint events and hurdles.
- 3.2.- Contents of training.
- 3.3.- Performance Profiles.
- 3.4.- Means and specific training methods.
- 3.5.- Planning Training

4. UNIT 4: PRACTICAL APPLICATIONS TO TRAINING IN ENDURANCE EVENTS.

- 4.1.- Contents of training.
- 4.2.- Performance Profiles.
- 4.3.- Means and specific training methods.
- 4.4.- Planning Training

- 5.1.- Horizontal Jumps
 - 5.1.1.- Basics Techniques in Horizontal Jumps: Long Jump.
 - 5.1.2.- Contents of training.
 - 5.1.3.- Performance Profiles.
 - 5.1.4.- Means and specific training methods.
 - 5.1.5.- Planning Training
- 5.2.- Vertical Jumps



5. UNIT 5: PRACTICAL APPLICATIONS TO TRAINING IN JUMPS.

- 5.1.- Horizontal Jumps
 - 5.1.1.- Basics Techniques in Horizontal Jumps: Long Jump.
 - 5.1.2.- Contents of training.
 - 5.1.3.- Performance Profiles.
- 5.2.1.- Basis for vertical jumps Techniques: The High Jump.
 - 5.2.2.- Contents of training.
 - 5.2.3.- Performance Profiles.
 - 5.2.4.- Means and specific training methods.
 - 5.2.5.- Planning Training

6. UNIT 6: PRACTICAL APPLICATIONS TO TRAINING IN THROWING EVENTS.

- 6.1.- HEAVY THROWS
 - 6.1.1 Technical Basics for Heavy Throws: The Shot Put.
 - 6.1.2 Contents of training.
 - 6.1.3 Performance Profiles.
 - 6.1.4 Means and specific training methods.
 - 6.1.5 Planning Training
- 6.2 Light Throws
 - 6.2.1 Technical basics for light throws: The Javelin.
 - 6.2.2 Contents of training.
 - 6.2.3 Performance Profiles.
 - 6.2.4 Media and specific training methods.
 - 6.2.5 Planning Training.

7. ITEM 7: EVALUATION AND CONTROL OF TRAINING LOADS AND TECHNIQUE

- 7.1.- Systems and Techniques of evaluation.
- 7.2.- Evaluation of Force
- 7.3.- Evaluation of Resistance
- 7.4.- Evaluation of Speed
- 7.5.- Qualitative analysis of the technique.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Classroom practices	30,00
Total hours	60,00

**NON PRESENCIAL ACTIVITIES**

Activity	Hours
Attendance at other activities	4,00
Individual or group project	20,00
Independent study and work	50,00
Preparation of lessons	0,00
Preparation for assessment activities	14,00
Resolution of case studies	2,00
Total hours	90,00

TEACHING METHODOLOGY

DEVELOPMENT OF THE SUBJECT

The course is built around activities as the theoretical and practical classes, as well as other as individual and group work, tutorials and independent study of the students.

- Theory.
- Exposure of the teacher.
- Group dynamics.
- Seminar.
- Practices.
- Practical sessions in athletics track, Gym, and outdoor natural circuits.
- Practical sessions in laboratory or classroom.
- Individual work.
- Group work.
- Tutorial



The practical classes will be held on campus facilities and in the Turia athletics stadium

EVALUATION

The evaluation of the student will be done by the system of continuous assessment in which the student may be subject to progressively eliminate contents:

- A / Partial Assessment at the completion of certain thematic blocks.
- B / Final Exam in the 1st Ordinary Call: for those students who have failed in partial assessments.
- C / Final Exam in the 2nd Ordinary Call: The exam will include all the contents of the Course.

The assessment mark is obtained by adding the result obtained by the student in the theoretical and practical assessment. The percentage share of each of those parts on the overall score is:

- Theoretical: 50% of the total grade.
- Practical: 50% of the total grade.

Observations

- In the mid-term exams students present the THEORETICAL and PRACTICAL contents developed throughout the mid-term and, in the case of passing them, material is eliminated for the exam of the first examination period of the academic course. In the exam of the second examination period of the academic course, students are presented to all the contents seen throughout the course.
- Learning materials received through practical sessions is considered essential. Consequently, attendance at these sessions is recommended and is an essential requirement to pass the subject. In order to pass the subject, students must present at least 80% of the practicals that they can carry out on the scheduled dates or outside of those hours independently, both in ordinary and extraordinary meetings, regardless of whether each teacher designs the criteria of continuous and final evaluation as considered most appropriate.
- Attendance at conferences, seminars and/or workshops related to the subject, such as the



Conference promoted by the Training and High Performance Teaching Unit, will be taken into account in the final grade for the subject, and may mean up to 1 point.

- Students are reminded that presenting a total or partial literal copy of others' works as their own will be considered unacceptable in the academic field. On the other hand, based on the Intellectual Property Law, total or partial reproductions of others' works are usually prohibited and can lead to their corresponding misdemeanours or crimes penalties.

REFERENCES

- Abbiss, C. R., & Laursen, P. B. (2008). Describing and understanding pacing strategies during athletic competition. *Sports Medicine*, 38(3), 239-252. Bravo, J., Martínez, J. L., Duran, J., Campos, J. (1993). *Atletismo III. Lanzamientos*. Comité Olímpico Español, Madrid. Bravo, J., García-Verdugo, M., Gil, F., Landa, L., Marín, J. & Pascua, M. (1998). *Atletismo 1. Carreras y Marcha* (Real Federación Española de Atletismo ed.). Madrid. Bravo, J., López, F., Ruf, H., Seilu-Lo, F. (1992). *Atletismo II. Saltos*. Comité Olímpico Español, Madrid. Bravo, J., Ruf, H., M., Vélez, M. (2003). *Atletismo 2. Saltos Verticales* (Real Federación Española de Atletismo ed.). Madrid. Campos, J., Ramón, V. (2001). *Teoría y Planificación del Entrenamiento Deportivo*. Paidotribo, Barcelona. Del Amo, J. L. L., Fresneda, A. G., Martínez, C. A. C., Vieco, A. M., & Miguel, P. G. (2012). Análisis de la elección de la pierna de ataque predominante en la prueba de 400 m vallas de los XIII Campeonatos del Mundo de Atletismo Daegu 2011. *Apunts Educación Física y Deportes*, (110), 70-77. Díaz, J. J., Fernández-Ozcorta, E. J., & Santos-Concejero, J. (2018). The influence of pacing strategy on marathon world records. *European journal of sport science*, 18(6), 781-786. Graubner, R., & Nixdorf, E. (2011). Biomechanical analysis of the sprint and hurdles events at the 2009 IAAF World Championships in Athletics. *New studies in athletics*, 26(1/2), 19-53.
- Gil, F., Marín, J. & Pascua, M. (4ª Edición - 2005). *Atletismo 1. Velocidad, vallas y marcha* (Real Federación Española de Atletismo ed.). Madrid. Hanon, C., & Gajer, B. (2009). Velocity and stride parameters of world-class 400-meter athletes compared with less experienced runners. *The Journal of Strength & Conditioning Research*, 23(2), 524-531. Montoya Vieco, A. (2012). Perfil del rendimiento en los métodos de competición del corredor de 800 m: análisis de la distribución del ritmo y la zancada.
- Campos, J.; Gallach, J.E. (2004) *Las Técnicas del Atletismo. Manual práctico de enseñanza*. Paidotribo. Barcelona. Dal Monte, A. (1983). *La valutazione Funzionale dell'atleta*, Sansoni, Firenze. Donskoi, D., Zatsiorski, V. (1988). *Biomecánica de los ejercicios físicos*. Gymnos, Madrid. García Manso, J.; Campos, J., Lizaur, P., Pablos, C. (2003) *El Talento Deportivo. Formación de élites deportivas*. Gymnos, Madrid. García Verdugo, M, Leibar, X. (1997). *Entrenamiento de la Resistencia*. Gymnos, Madrid. González Badillo, J.J., Gorostiaga, E. (1996). *Fundamentos del entrenamiento de la fuerza. Aplicación al alto rendimiento deportivo*. INDE, Barcelona
- Hochmuth, G. (1973). *Biomecánica de los movimientos deportivos*. Doncel, Madrid. I.A.A.F. (1985). *Athletes in Action*. International Amateur Athletic Federation, London. Matveev (1970). *Fundamentos del entrenamiento deportivo*. Ed. Riga. Moscu. Piasenta, J. (1988). *L'Education Athletique*. INSEP, Paris. Verjoshanski, Y. (1990). *Entrenamiento Deportivo*. Martínez Roca, Barcelona. Wirhed, Rolf. (1986). *Abilitá atletica e anatomia del movimento*. De. Hermes, Milano

