



## Teaching Guide

| Teaching Guide      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |                                                                                                                    |           |
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| Identifying Data    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        | 2020/21                                                                                                            |           |
| Subject (*)         | Learning and Motor Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        | Code                                                                                                               | 620G01012 |
| Study programme     | Grao en Ciencias da Actividade Física e do Deporte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                                                                                                                    |           |
| Descriptors         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |                                                                                                                    |           |
| Cycle               | Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Year   | Type                                                                                                               | Credits   |
| Graduate            | 2nd four-month period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Second | Basic training                                                                                                     | 6         |
| Language            | SpanishEnglish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |                                                                                                                    |           |
| Teaching method     | Hybrid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |                                                                                                                    |           |
| Prerequisites       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |                                                                                                                    |           |
| Department          | Educación Física e Deportiva                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |                                                                                                                    |           |
| Coordinador         | Sanchez Molina, Jose Andres                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E-mail | jose.andres.sanchez.molina@udc.es                                                                                  |           |
| Lecturers           | Arias Rodríguez, Pablo<br>Morenilla Burlo, Luis<br>Sanchez Molina, Jose Andres<br>Sevilla Sánchez, Marta                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | E-mail | pablo.arias.rodriguez@udc.es<br>luis.morenilla@udc.es<br>jose.andres.sanchez.molina@udc.es<br>marta.sevilla@udc.es |           |
| Web                 | www.motorcontrolgroup.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |                                                                                                                    |           |
| General description | Motor control is a scientific discipline that attempts to answer the basic question of how humans control movement. This discipline is nothing more than an attempt to integrate many other sciences that ask the same question, but that historically have not been related to each other. Psychology, neurophysiology or neurology are examples of sciences that have contributed a great deal of knowledge about the functioning of the nervous system and its role in human movement but which have maintained, until not long ago, a discourse isolated from each other. This does not mean that motor control is the "discipline" that will ultimately resolve all our doubts, but rather that it reflects the importance of approaching human movement with a multidisciplinary or, rather, interdisciplinary approach, given that it is the only way to understand how human beings control their movements with intention. |        |                                                                                                                    |           |



|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contingency plan | <p>1. Modifications to the contents</p> <ul style="list-style-type: none"> <li>- No changes will be made.</li> </ul> <p>2. Methodologies</p> <p>*Teaching methodologies that are maintained:</p> <ul style="list-style-type: none"> <li>- Guest lecture/keynote speech</li> <li>- ICT practicals</li> </ul> <p>*Teaching methodologies that are modified:</p> <ul style="list-style-type: none"> <li>- Laboratory practices: <ul style="list-style-type: none"> <li>- Raw records of practices from previous courses will be used for analysis, obtaining results and subsequent discussion and evaluation through questionnaires posed through ICT.</li> <li>- The number of practices in which the registration system is the interaction with the PEBL application will be increased.</li> </ul> </li> <li>- Events academic/information</li> <li>- Clinical test.</li> </ul> <p>3. Mechanisms for personalized attention to students:</p> <ul style="list-style-type: none"> <li>- Email: Daily. Used to make queries, request virtual meetings to resolve doubts and send notifications on the development of the subject.</li> <li>- Moodle: weekly, with scheduled activities and notices through "news".</li> <li>- MSTEams: 3 weekly sessions to advance in the theoretical content and activities to develop (explanation of practices, procedures, records, analysis and discussion of results). An additional session every two weeks as a mandatory tutoring established by the center, in the schedule of academic activity, to advance in the aspects of theoretical or practical nature that are required (students will be asked to establish the demand for the content of the tutoring).</li> </ul> <p>4. Modifications in the evaluation</p> <ul style="list-style-type: none"> <li>- Mixed objective/subjective test: 25% (normal basic situation: 40%; it can reach 55% if the methodologies of: scientific and/or informative events and clinical tests are not carried out).</li> <li>- ICT Practicals: 75% (normal situation: 45%)</li> </ul> <p>*Evaluation observations:</p> <ul style="list-style-type: none"> <li>- It corresponds to those raised in the section "evaluation observations" of the guide.</li> </ul> <p>5. Modifications to the bibliography or webgraphy</p> <ul style="list-style-type: none"> <li>- No changes will be made. By default, the necessary documents for the development of the subject (mainly, articles, manuals and tutorials) are already incorporated in Moodle.</li> </ul> |
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| Study programme competences |                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code                        | Study programme competences                                                                                                                                                                                                                                                                                                                          |
| A14                         | Deseñar, planificar, avaliar técnico-científicamente e desenvolver programas de exercicios orientados á prevención, a reeducación, a recuperación e readaptación funcional nos diferentes ámbitos de intervención: educativo, deportivo e de calidade de vida, considerando, cando fose necesario as diferenzas por idade, xénero, ou discapacidade. |
| A22                         | Comprender os fundamentos neurofisiolóxicos e neuropsicolóxicos subxacentes ao control do movemento e, de ser o caso, ás diferenzas por xénero. Ser capaz de realizar a aplicación avanzada do control motor na actividade física e o deporte.                                                                                                       |
| A27                         | Aplicar os principios cinesiolóxicos, fisiolóxicos, biomecánicos, comportamentais e sociais nos contextos educativo, recreativo, da actividade física e saúde e do adestramento deportivo, recoñecendo as diferenzas biolóxicas entre homes e mulleres e a influencia da cultura de xénero nos hábitos de vida dos participantes.                    |
| A35                         | Coñecer e saber aplicar o método científico nos diferentes ámbitos da actividade física e o deporte, así como saber deseñar e executar as técnicas de investigación precisas, e a elección e aplicación dos estatísticos adecuados.                                                                                                                  |
| B1                          | Coñecer e posuír a metodoloxía e estratexia necesaria para a aprendizaxe nas ciencias da actividade física e do deporte.                                                                                                                                                                                                                             |



|     |                                                                                                                                                                                                                                                                                                 |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B2  | Resolver problemas de forma eficaz e eficiente no ámbito das ciencias da actividade física e do deporte.                                                                                                                                                                                        |
| B3  | Traballar nos diferentes contextos da actividade física e o deporte, de forma autónoma e con iniciativa, aplicando o pensamento crítico, lóxico e creativo.                                                                                                                                     |
| B4  | Trabajar de forma colaboradora, desenvolvendo habilidades, de liderado, relación interpersoal e traballo en equipo.                                                                                                                                                                             |
| B5  | Comportarse con ética e responsabilidade social como cidadán.                                                                                                                                                                                                                                   |
| B7  | Xestionar a información.                                                                                                                                                                                                                                                                        |
| B9  | Comprender a literatura científica do ámbito da actividade física e o deporte en lingua inglesa e en outras linguas de presenza significativa no ámbito científico.                                                                                                                             |
| B10 | Saber aplicar as tecnoloxías da información e comunicación (TIC) ao ámbito das Ciencias da Actividade Física e do Deporte.                                                                                                                                                                      |
| B11 | Desenvolver competencias para a adaptación a novas situacións e resolución de problemas, e para a aprendizaxe autónoma.                                                                                                                                                                         |
| B12 | Coñecer os principios éticos necesarios para o correcto exercicio profesional e actuar de acordo con eles.                                                                                                                                                                                      |
| B13 | Coñecer e aplicar metodoloxías de investigación que faciliten a análise, a reflexión e cambio da súa práctica profesional, posibilitando a súa formación permanente.                                                                                                                            |
| B16 | Dominar habilidades de comunicación verbal e non verbal necesarias no contexto da actividade física e o deporte.                                                                                                                                                                                |
| B20 | Coñecer, reflexionar e adquirir hábitos e destrezas para a aprendizaxe autónoma e o traballo en equipo a partir das prácticas externas en algún dos principais ámbitos de integración laboral, en relación ás competencias adquiridas no grao que se verán reflectidas no traballo fin de grao. |
| C1  | Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.                                                                                                                                                                                        |
| C2  | Dominar a expresión e a comprensión de forma oral e escrita dun idioma estranxeiro.                                                                                                                                                                                                             |
| C3  | Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.                                                                                                                 |
| C4  | Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.                                          |
| C5  | Entender a importancia da cultura emprendedora e coñecer os medios ao alcance das persoas emprendedoras.                                                                                                                                                                                        |
| C6  | Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.                                                                                                                                                               |
| C7  | Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.                                                                                                                                                                                                                |
| C8  | Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.                                                                                                                                                   |

| Learning outcomes                                                                                                                                                                                               |     |                             |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------|----|
| Learning outcomes                                                                                                                                                                                               |     | Study programme competences |    |
| Know and comprise the foundations neurofisiolóxicos and neuropsicolóxicos underlying to the control of the human movement and his development                                                                   | A22 | B2                          | C1 |
|                                                                                                                                                                                                                 | A27 | B5                          | C2 |
|                                                                                                                                                                                                                 |     | B10                         | C6 |
|                                                                                                                                                                                                                 |     | B13                         |    |
| Be able to realise the application advanced of the control and learning engine in the fields of performance of the physical activity and of the sport, and , in his case, considering the differences by gender | A14 | B1                          | C3 |
|                                                                                                                                                                                                                 | A27 | B2                          | C4 |
|                                                                                                                                                                                                                 | A35 | B3                          | C5 |
|                                                                                                                                                                                                                 |     | B4                          | C6 |
|                                                                                                                                                                                                                 |     | B5                          | C7 |
|                                                                                                                                                                                                                 |     | B7                          | C8 |
|                                                                                                                                                                                                                 |     | B9                          |    |
|                                                                                                                                                                                                                 |     | B10                         |    |
|                                                                                                                                                                                                                 |     | B11                         |    |
|                                                                                                                                                                                                                 |     | B12                         |    |
|                                                                                                                                                                                                                 |     | B13                         |    |
|                                                                                                                                                                                                                 |     | B16                         |    |
|                                                                                                                                                                                                                 |     | B20                         |    |



| Contents                                                     |                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topic                                                        | Sub-topic                                                                                                                                                                                                                                                     |
| Thematic block 1. Introduction to learning and motor control | Topic 1.1 Conceptualization and History of learning and motor control<br>Topic 1.2 Motor behavior and measurement<br>Topic 1.3 Model of information processing and decision making<br>Topic 1.4. Conditions for the processing of information                 |
| Thematic block 2. Neurophysiological bases of motor control  | Topic 2.1 Collection of sensory information for movement control<br>Topic 2.2 Spinal control of movement<br>Topic 2.3 Cortical control of movement<br>Topic 2.4 Subcortical motion control: Basal Ganglia<br>Topic 2.5 Subcortical motion control: Cerebellum |
| Thematic block 3. Control of human movement                  | Topic 3.1 Control systems for motion execution<br>Topic 3.2 Movement production and motor program<br>Topic 3.3 Principles of motor control and movement accuracy<br>Topic 3.4 Individual differences and motor skills                                         |
| Thematic block 4. Principles of motor learning               | Topic 4.1 Motor learning<br>Topic 4.2 Implementation of motor learning<br>Topic 4.3 Structuring of learning<br>Topic 4.4 Feedback during learning                                                                                                             |

| Planning                                                                                                                        |                                              |                      |                               |             |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------|-------------------------------|-------------|
| Methodologies / tests                                                                                                           | Competencies                                 | Ordinary class hours | Student's personal work hours | Total hours |
| Introductory activities                                                                                                         | B7 C6                                        | 1                    | 0                             | 1           |
| Laboratory practice                                                                                                             | A22 A35 B4 B12 B20<br>C3 C6 C8               | 16                   | 12                            | 28          |
| Guest lecture / keynote speech                                                                                                  | A22 A35 B7 C4 C5<br>C7                       | 29                   | 58                            | 87          |
| ICT practicals                                                                                                                  | A22 B7 B9 B13 C3                             | 4                    | 12                            | 16          |
| Mixed objective/subjective test                                                                                                 | A14 A27 B1 B2 B9<br>B10 B11 B13 B16 C1<br>C2 | 2                    | 0                             | 2           |
| Clinical test:                                                                                                                  | B2 B3 B5 B7 B13 C8                           | 0                    | 8                             | 8           |
| Events academic / information                                                                                                   | B3 B5 B7 C7 C8                               | 0                    | 7                             | 7           |
| Personalized attention                                                                                                          |                                              | 1                    | 0                             | 1           |
| (*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students. |                                              |                      |                               |             |

| Methodologies                  |                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies                  | Description                                                                                                                                                                                                                                                                                                                                                                                  |
| Introductory activities        | A complete explanation of the aspects addressed in the teaching guide will be explained the first day of class in order that students know the skills that are intended to acquire.<br><br>In the same way prior to the completion of any of the proposed works and activities, the necessary information will be provided and the students will be organized for their optimal development. |
| Laboratory practice            | Laboratory practices will be carried out on the theoretical contents taught in the subject. In each practice the student will participate as an evaluator and as an experimental subject.                                                                                                                                                                                                    |
| Guest lecture / keynote speech | The fundamental contents will be taught through a magisterial session, although will be demanded an active participation of the students, presenting problems and questions to solve.<br><br>During the present course the sessions will be developed in virtual mode and in a synchronous way.                                                                                              |



|                                 |                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICT practicals                  | An application such as Kahoot or similar will be used, with the intention of encouraging students to be aware of the contents raised in previous sessions or even in the session itself. It will also serve to determine the participation of students. Students with lower scores may be responsible for preparing questionnaires to be presented in a next session where Kahoot is used. |
| Mixed objective/subjective test | A exam t that can integrate questions such as essay tests and question type of objective tests. As for essay questions, it gathers open questions of development. In addition, as objective questions, you can combine multiple-choice, ordering, brief response, discrimination, completion, and / or association questions.                                                              |
| Clinical test:                  | Participate as an experimental subject or as an assistant in studies developed in the "Group of learning and control of the human movement in physical activity and sport (ACoM)".                                                                                                                                                                                                         |
| Events academic / information   | Participate in scientific and / or informative events related to the contents of the subject.                                                                                                                                                                                                                                                                                              |

## Personalized attention

| Methodologies                  | Description                                                                                                                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Laboratory practice            | Queries or questions raised by students will be solved individually through previously agreed meetings.                                                                                           |
| Guest lecture / keynote speech | The tutoring schedules of the subject, programmed by the center, will make it possible to complete, in small groups, the tasks not developed in the laboratory sessions of the official schedule. |

## Assessment

| Methodologies                   | Competencies                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Qualification |
|---------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Events academic / information   | B3 B5 B7 C7 C8                         | The criterion of equivalence of 0.1 points of the final grade for each hour of activity up to a maximum of 0.75 points is established in this methodology.<br>If the student does not participate in this methodology or the final score obtained in this section is lower than the mixed test score its percentage will be included in the percentage of the mixed test.                                                                                         | 7.5           |
| Mixed objective/subjective test | A14 A27 B1 B2 B9 B10 B11 B13 B16 C1 C2 | Test done at the end of the subject, on scheduled exam date.                                                                                                                                                                                                                                                                                                                                                                                                      | 40            |
| ICT practicals                  | A22 B7 B9 B13 C3                       | A series of controls related to both practices and theoretical contents, in order to motivate attendance, continuous study and the resolution of doubts, will be presented through TICs (Moodle, Kahoot, Symbaloo), during the course<br>The data recorded in the practices will be include them in the platform / digital application established, obligatorily. This will allow the analysis of the data, generate new approaches and answer related questions. | 45            |
| Clinical test:                  | B2 B3 B5 B7 B13 C8                     | The criterion of equivalence of 0.1 points of the final grade for each hour of activity up to a maximum of 0.75 points is established in this methodology.<br>If the student does not participate in this methodology or the final score obtained in this section is lower than the mixed test score its percentage will be included in the percentage of the mixed test.                                                                                         | 7.5           |

## Assessment comments



Regarding the performance of the mixed test: The result of the mixed test must be equal to or greater than 5.00 to perform the weighted average with the remaining elements of the evaluation. The score of each question will be made explicit on the exam sheet, in case the questions have a different value. The weighted average result of the different evaluation elements must be equal to or greater than 5.00 to overcome the subject. Both the mixed test and the practical tests through TICs will be given to the students in the language in which the subject is imparted (Spanish). Any student wishing to have the mixed test in another official language of the UDC must request it from the teacher at least one month in advance. Regarding the examination calls: each call consists of two opportunities (June and July); when in the same call a student has a grade of "not presented" on one occasion and "suspended" on the other, in his / her record it will be shown as "suspense". The student can choose to perform only the "clinical test" methodology or only the methodology "scientific and / or informative events" in which case you can get up to 1.5 points in any one. Maintenance of notes in the second opportunity of the call: the qualifications obtained in any of the evaluation sections achieved at the first opportunity of each call will be maintained if the student so wishes. Maintenance of notes in subsequent calls: the qualifications obtained in any of the evaluation sections obtained in previous examinations will be maintained, except in the case of a possible change of the teacher that imparts the subject; the criteria for extraordinary calls will be the same as those already established. Consideration in the case of partial registration: the evaluation will be carried out in the same way as for the rest of the students with full registration.

## Sources of information

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Basic</b>         | <ul style="list-style-type: none"> <li>- Fernández del Olmo, M. Á. (2012). Neurofisiología aplicada a la actividad física. Madrid: Síntesis</li> <li>- Kandel, E.R., Schwartz, J.H. y Jessell, T.M. (2001). Principios de neurociencia (4ª ed.). Madrid: McGraw-Hill</li> <li>- Latash, Mark L. (1998). Neurophysiological basis of movement. Champaign, IL: Human Kinetics</li> <li>- Schmidt, R. A. y Lee, T. D. (2011). Motor control and learning: a behavioral emphasis (5ª ed). Champaign, IL: Human Kinetics</li> <li>- Schmidt, R. A. y Wrisberg, C. A. (2008). Motor learning and performance: A situation-based learning approach (4ª ed). Champaign, IL: Human Kinetics</li> </ul>                                                                                                                                                                                                                                                                                                                                                          |
| <b>Complementary</b> | <ul style="list-style-type: none"> <li>- Cardinali, Daniel P. (2007). Neurociencia aplicada: sus fundamentos. Madrid: Médica Panamericana</li> <li>- Felten, D., Shetty, A. y Netter F. (2010). Atlas de Neurociencia. Barcelona: Masson</li> <li>- Goldstein, E. Bruce (2006). Sensación y percepción. Madrid : Thomson-Paraninfo</li> <li>- Magill, R. y Anderson, D. (2017). Motor Learning and Control: Concepts and Applications. New York: McGraw-Hill Education</li> <li>- Martens, R. (2002). El entrenador de éxito. Barcelona: Paidotribo</li> <li>- Oña Sicilia, Antonio (1999). Control y aprendizaje motor. Madrid: Síntesis</li> <li>- Ponz Piedrafit, Francisco y Barber Cárcamo, A. María (1989). Neurofisiología. Madrid: Síntesis</li> <li>- Rothwell, J. C. (1994). Control of human voluntary movement (2ª ed). London: Chapman &amp; Hall</li> <li>- Shumway-Cook, Anne y Woollacott, Marjorie H. (2007). Motor control: translating research into clinical practice. Philadelphia : Lippincott Williams &amp; Wilkins</li> </ul> |

## Recommendations

### Subjects that it is recommended to have taken before

### Subjects that are recommended to be taken simultaneously

Anatomy and Kinetics of Human Movement/620G01002  
 Psychology of Physical Activity and Sport/620G01011  
 Physiology of Exercise I/620G01013

### Subjects that continue the syllabus

Physical Activity and Sports Research/620G01021  
 Technology in Physical Activity and Sport/620G01034

## Other comments

In order to improve our school's internal quality assurance system, it would be advisable for students to respond to the request made by the UDC, every four months, to participate in the evaluation process of the subjects they have studied". This request is called "AVALIA" and consists of answering the questionnaires that evaluate the teaching of the teachers in each subject.



(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.