

Year 2023/2024 280403 - Assessment of Biological Condition

Information about the subject

Degree: Bachelor of Sciences of Physical Activity and Sport

Faculty: Faculty of Physical Activity and Sport Sciences

Code: 280403 Name: Assessment of Biological Condition

Credits: 6,00 ECTS Year: 4 Semester: 1

Module: 6-9) Professional itinerary module

Subject Matter: Sports training Type: Compulsory

Field of knowledge: Sports training

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

IEDM Javier Zahonero Miralles (Responsible Lecturer) javier.zahonero@ucv.es

IEDT Jose Marti Marti (Profesor responsable) jose.marti@ucv.es



Year 2023/2024 280403 - Assessment of Biological Condition

Module organization

6-9) Professional itinerary module

| Subject Matter | ECTS | Subject | ECTS | Year/semester |
|--|-------|---|------|---------------|
| Education of the physical activity and the sport | 12,00 | Design, assessment and intervention of educational programs | 6,00 | 4/1 |
| | | Pedagogy in Educational Values in Physical and Sports Activity | 6,00 | 4/1 |
| Sports training | 12,00 | Assessment of Biological Condition | 6,00 | 4/1 |
| | | Planning and Methodology of Sports Training | 6,00 | 4/1 |
| Physical Activity and Quality of Life | 12,00 | Prescription and Assessment of Physical Exercise in Different Populations | 6,00 | 4/1 |
| | | Promotion and Programs of Healthy Lifestyles | 6,00 | 4/1 |
| Management and sportive/sport recreation. | 12,00 | Sports Facilities | 6,00 | 4/1 |
| | | Structure and Legislation in Sports Management | 6,00 | 4/1 |



Year 2023/2024 280403 - Assessment of Biological Condition

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

| R1 | Acquire basic knowledge. |
|----|--|
| R2 | Learning to assess the biological components of the athlete. |
| R3 | Learning to work in groups. |
| R4 | Apply knowledge ergogénesis depending on the sport. |
| R5 | Apply the lessons learned. |
| R6 | Apply variety of appliances, tools, methodologies and protocols related to the assessment of physical condition. |
| R7 | Learn to evaluate and assess their theoretical and practical work. |



Year 2023/2024 280403 - Assessment of Biological Condition

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

| GENER | AL | | Weig | ghting | 3 |
|-------|---|---|------|--------|---|
| | | 1 | 2 | 3 | 4 |
| CG2 | Ability to apply information technology and communication (ICT) | | x | | |
| CG3 | Develop skills to solve problems through decision-making | | | | X |
| CG4 | Transmit any information regarding the contents of body expression both in writing and orally | | X | 1 | |
| CG7 | Be capable of critical reasoning using the knowledge gained | | | | X |
| CG10 | Develop skills to adapt to new situations and autonomous learning | | x | | |
| CG13 | Being able to apply theoretical knowledge in practice | | | 4 | x |
| CG14 | Use Internet well as communication and as a source of information | | x | | |
| CG19 | Developing habits aiming at obtaining excellence and quality at work | | X | | |

| SPECIF | IC | | Wei | ght | ing | |
|--------|--|---|-----|-----|-----|---|
| | | 1 | 2 | | 3 | 4 |
| CE5 | Know and understand the effects of the practice of body language and its manifestations in the personal development and health improvement | | x | | | |
| CE12 | Plan, develop and control the theatrical process at different levels | | | | | X |
| CE13 | Applying physiological, biomechanical, behavioural and social principles to different fields of physical activity and sports | | | | X | |
| CE19 | Learn to apply the techniques of information and communication within the body expression | X | | | | |



Year 2023/2024 280403 - Assessment of Biological Condition

Assessment system for the acquisition of competencies and grading system

| Assessed learning outcomes | Granted percentage | Assessment method |
|----------------------------|-----------------------|--------------------------------------|
| R1, R2, R4, R5 | 45,00% | Written/oral and/or practical tests. |
| R7 | 10,00% | Participation and self-assessment. |
| R1, R2, R3, R4, R5, R6 | 45,00% | Completion of a project. |

Observations

To pass the subject or in the 1^a enrolment be essential:

- •To pass the course the student must obtain at least 50% of the total mark for each of the sections of assessment (excluding self-assessment).
- ·Failure to pass these criteria will be his second official evaluation in conserving call other scores for the competencies exceeded.
- •Students who do not meet the requirements to pass the course but the overall rating is equal to or greater than 5 pts. will be rated at 4.5 pts.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1 Exhibition of contents by the teacher.

M2 Dynamics and group activities.

M3 Resolution of problems and cases.



Year 2023/2024 280403 - Assessment of Biological Condition

M4 Laboratory practices.

M5 Discussion in small groups.

M6 Practical lesson.



Year 2023/2024 280403 - Assessment of Biological Condition

IN-CLASS LEARNING ACTIVITIES

| | LEARNING OUTCOMES | HOURS | ECTS |
|--|------------------------|-------|------|
| PRACTICAL /SEMINAR CLASS: Dynamics and group activities. Resolution of problems and cases. Laboratory practices. Data search in a computer room, library Meaningful construction of knowledge through the interaction and activity of the student M2, M3, M5, M6 | R1, R2, R3, R4, R5, R6 | 29,00 | 1,16 |
| TUTORY: Learning supervision, evolution. Discussion in small groups. Resolution of problems and cases. Presentation of results before the teacher. Presentation of schemes and indexes of the proposed works. M5 | R1, R4, R5 | 2,00 | 0,08 |
| EVALUATION: Set of oral and / or written tests used in the evaluation of the student, including the oral presentation of the final project. M2, M3 | R1, R4, R5, R6, R7 | 4,00 | 0,16 |
| THEORETICAL CLASS: Presentation of content by the teacher. Competency analysis. Demonstration of skills, abilities and knowledge in the classroom. M1, M2, M5 | R1, R2 | 25,00 | 1,00 |
| TOTAL | | 60,00 | 2,40 |



Year 2023/2024 280403 - Assessment of Biological Condition

LEARNING ACTIVITIES OF AUTONOMOUS WORK

| | LEARNING OUTCOMES | HOURS | ECTS |
|---|-------------------|-------|------|
| GROUP WORK: Problem solving. Preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring. M2, M3 | R2, R3, R4, R5 | 35,00 | 1,40 |
| AUTONOMOUS WORK: Study, Individual preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring. Platform activities or other virtual spaces. | R2, R3, R4, R5 | 55,00 | 2,20 |
| TOTAL | | 90,00 | 3,60 |



Year 2023/2024 280403 - Assessment of Biological Condition

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

| Content block | Contents |
|---------------|----------|

Block. 1. - Functional assessment.

Item 1. Functional assessment: objectives and methodological bases.

Item 2. Functional assessment of aerobic metabolism.

·I stress tests: Laboratory tests.

·direct and indirect methods of estimating the maximum aerobic power.

·direct and indirect methods of estimation of the transition zone anaerobic and aerobic

·Stress tests II: field trials.

·direct and indirect methods of estimating the maximum aerobic power.

·direct and indirect methods of estimation of the transition zone anaerobic and aerobic Item 3. Functional assessment of anaerobic metabolism:

anaerobic power and endurance.Item 4. Functional assessment of flexibility.Item 5. Functional assessment of muscle strength.Item 6. Functional assessment of physical abilities.

Block 2. - Adaptations of the organism to physical exercise.

Item 7. Cardiovascular adaptations to exercise:

- ·changes in the electrocardiogram and the cardiac cycle.
- ·changes in heart rate, stroke volume and cardiac output.
- ·variations of blood pressure and blood flow.

Item 8. Respiratory adaptations to exercise.

Item 9. Hematologic adaptations to exercise.



Year 2023/2024 280403 - Assessment of Biological Condition

Block 3. practices

Item 10. Rating and functional tests:

- ·Electrocardiogram.
- ·spirometry.
- ·Monitoring of heart rate and heart rate variability
- ·Estimation of maximal aerobic power by submaximal tests.
 - ·Estimation of maximal aerobic power by maximal tests.
 - ·Test estimation transition zone aerobic and anaerobic.
 - ·Test estimation of anaerobic power.

Temporary organization of learning:

| Block of content | Number of sessions | Hours |
|---|--------------------|-------|
| Block. 1 Functional assessment. | 12,00 | 24,00 |
| Block 2 Adaptations of the organism to physical exercise. | 8,00 | 16,00 |
| Block 3. practices | 10,00 | 20,00 |



Year 2023/2024 280403 - Assessment of Biological Condition

References

BASIC BIBLIOGRAPHY:

Astrand, P.O., y Rodahl, K. (1993). Fisiología del trabajo físico. Panamericana. Barcelona.

Barbany, J.R. (1990). Fundamentos de fisiología del ejercicio y del entrenamiento. Barcanova. Barcelona.

Bowers, R.W., y Fox, E.L. (1995). Fisiología del deporte. Panamericana. Barcelona.

George, J.D., Fisher, A.G., y Vehrs, P.R. (1996). Test y pruebas físicas. Paidotribo. Barcelona.

González, J. (1992). Fisiología de la actividad física y del deporte. McGraw-Hill. Interamericana. Madrid.

Guyton, A.C., y Hall, J.E. (1996). Tratado de Fisiología médica. McGraw-Hill. Interamericana. Madrid.

Legido, J.C., Segovia, J.C., y Ballesteros, J.M. (1996). Valoración de la condición física por medio de test. Ediciones Pedagógicas, Colección Educación Física y Deporte. Madrid.

Legido Arce, J. C., Silvarrey Varela, F. L., & Segovia Martinez, J. C. (1996). Manual de valoracion funcinal. Madrid; Spain: Eurobook.

López Chicharro, J. Aznar Laín, S. Fernández Vaquero, A. López Mojares, L.M. Lucía Mulas, A. Pérez Ruiz, M. (2004). Transición aeróbica-anaeróbica. Concepto, metodología de determinación y aplicaciones. Ed. Master Line & Prodigio S.L. Madrid.

López-Chicharro J., y Fernández-Vaquero A. (1995). Fisiología del ejercicio. Panamericana. Barcelona.

López-Chicharro, J. y Legido, J.C. (1991). Umbral anaerobico. Bases fisiológicas y aplicación. McGraw-Hill. Interamericana. Madrid.

McArdle, W., Katch, F.I., y Katch, V.L. (1991). Fisiología del ejercicio. Energía, nutrición y rendimiento humano. Alianza Deporte. Madrid.

Robertson, G. E.. (2004). Research methods in Biomechanics. Human Kinetics. Champaign, IL

Thomas, J.R, Nelson, J.K. (2007). Métodos de investigación en actividad física. Paidotribo.



Year 2023/2024 280403 - Assessment of Biological Condition

Barcelona.





Year 2023/2024 280403 - Assessment of Biological Condition

Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

<u>Situation 1: Teaching without limited capacity</u> (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

<u>Situation 2: Teaching with limited capacity</u> (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

| Х | Microsoft Teams | |
|---|-----------------|--|
| | | |
| Х | Kaltura | |



Year 2023/2024 280403 - Assessment of Biological Condition

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

| χ Microsoft Teams | |
|---|--|
| χ Kaltura | |
| | |
| Explanation about the practical sessions: | |
| | |
| | |
| | |
| | |



Year 2023/2024 280403 - Assessment of Biological Condition

2. System for Assessing the Acquisition of the competences and

| Assessment System | • | - | |
|---------------------------------|---|---|--|
| ONSITE WORK | | | |
| Regarding the Assessment Tools: | | | |

| Х | The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus. |
|---|--|
| | The following changes will be made to adapt the subject's assessment to the online teaching. |

| Course guide | | Adaptation | | |
|-----------------|----------------------|--------------------------------------|---------------------|--|
| Assessment tool | Allocated percentage | Description of the suggested changes | Platform to be used | |

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System: