

**1. General information****Course:** EXERCISE PHYSIOLOGY I**Type:** BASIC**Degree:** 314 - DEGREE IN SCIENCES OF THE PHYSICAL ACTIVITY AND OF THE SPORT**Center:** 8 - FACULTY OF SPORT SCIENCES**Year:** 1**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 39300**ECTS credits:** 9**Academic year:** 2021-22**Group(s):** 40**Duration:** AN**Second language:** English**English Friendly:** Y**Bilingual:** Y**Lecturer:** RICARDO MORA RODRIGUEZ - Group(s): 40

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**2. Pre-Requisites**

Not established

**3. Justification in the curriculum, relation to other subjects and to the profession**

Not established

**4. Degree competences achieved in this course****Course competences**

Code	Description
A03	Understand the scientific literature in the field of physical activity and sport in the English language and in other languages of significant presence in the scientific field.
B05	Know and understand the effects of the practice of physical exercise on the structure and function of the human body.
M122	To know and understand the determinant physiological factors of physical activity and sport.
M123	To know and understand the effects of exercise on the structure and function of the human body.
M124	To apply physiological principles to different fields of physical activity and sport.
M125	To know the essential elements of human movement, including muscular factors, neurological control and neuromuscular adaptations to training.
M126	To know how the different energy substrates intervene in the development of movement. Besides, to be familiar with bioenergetics, metabolic pathways, the concept of energy expenditure during exercise, as well as the intervention of hormonal regulation of energy flow during exercise and metabolic adaptations occurring with training.
M127	To use physiological assessment systems to study the variables involved in cardiovascular control and respiratory regulation during exercise, as well as the cardiovascular and respiratory adaptations that occur with training.

**5. Objectives or Learning Outcomes****Course learning outcomes**

Description

To evaluate the adaptations of the cardiovascular and respiratory systems after an exercise bout or exercise training.

To identify the different energy substrates for human movement. Besides, to analyze the energy expenditure during exercise and the related endocrine response.

**6. Units / Contents****Unit 1:****Unit 1.1****Unit 1.2****Unit 1.3****Unit 1.4**

**Unit 2:**

- Unit 2.1**
- Unit 2.2**
- Unit 2.3**
- Unit 2.4**
- Unit 2.5**

**Unit 3:**

- Unit 3.1**
- Unit 3.2**
- Unit 3.3**

**Unit 4:**

**Unit 5:**

**Unit 6:**

**Unit 7:**

**Unit 8:**

**Unit 9:**

**Unit 10:**

**Unit 11:**

**Unit 12:**

**Unit 13:**

**Unit 14:**

**Unit 15:**

**Unit 16:**

- Unit 16.1**
- Unit 16.2**
- Unit 16.3**
- Unit 16.4**

**Unit 17:**

- Unit 17.1**
- Unit 17.2**
- Unit 17.3**
- Unit 17.4**
- Unit 17.5**

**Unit 18:**

- Unit 18.1**
- Unit 18.2**
- Unit 18.3**

**Unit 19:**

- Unit 19.1**

**Unit 20:**

- Unit 20.1**
- Unit 20.2**

**Unit 21:**

- Unit 21.1**
- Unit 21.2**
- Unit 21.3**
- Unit 21.4**

**Unit 22:**

- Unit 22.1**
- Unit 22.2**
- Unit 22.3**
- Unit 22.4**
- Unit 22.5**
- Unit 22.6**

**Unit 23:**

**Unit 24:**

**Unit 25:**

**Unit 26:**

**Unit 27:**

**Unit 28:**

**Unit 29:**

**Unit 30:**

**Unit 31:**

**Unit 32:**

**Unit 33:**

**Unit 34:**

**Unit 35:**

**Unit 36:**

**Unit 37:**

**Unit 38:**

**Unit 39:**

**Unit 40:**

7. Activities, Units/Modules and Methodology							
Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Laboratory practice or sessions [ON-SITE]	Project/Problem Based Learning (PBL)	A03 B05 M122 M123 M124 M125 M126 M127	1.52	38	Y	Y	
Class Attendance (theory) [ON- SITE]	Lectures	A03 B05 M122 M123 M124 M125 M126 M127	1.84	46	Y	Y	
Practicum and practical activities report writing or preparation [OFF- SITE]	Problem solving and exercises	A03 B05 M122 M123 M124 M125 M126 M127	4	100	Y	Y	
Analysis of articles and reviews [OFF-SITE]	Reading and Analysis of Reviews and Articles	A03 B05 M122 M123 M124 M125 M126 M127	1.4	35	Y	Y	
Progress test [ON-SITE]	Assessment tests		0.24	6	Y	N	
<b>Total:</b>			<b>9</b>	<b>225</b>			
<b>Total credits of in-class work: 3.6</b>			<b>Total class time hours: 90</b>				
<b>Total credits of out of class work: 5.4</b>			<b>Total hours of out of class work: 135</b>				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System			
Evaluation System	Continuous assessment	Non- continuous evaluation*	Description
Progress Tests	70.00%	0.00%	
Other methods of assessment	30.00%	0.00%	
Final test	0.00%	100.00%	
<b>Total:</b>	<b>100.00%</b>	<b>100.00%</b>	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
<b>Unit 1 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 31-01-2022	<b>End date:</b> 24-02-2022
<b>Unit 2 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 01-03-2022	<b>End date:</b> 31-03-2022
<b>Unit 3 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 04-04-2022	<b>End date:</b> 12-05-2022
<b>Unit 4 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 31-01-2022	<b>End date:</b> 03-02-2022
<b>Unit 5 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 07-02-2022	<b>End date:</b> 10-02-2022
<b>Unit 6 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58

Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 14-02-2022	<b>End date:</b> 17-02-2022
<b>Unit 7 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 21-02-2022	<b>End date:</b> 24-02-2022
<b>Unit 8 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 07-03-2022	<b>End date:</b> 10-03-2022
<b>Unit 9 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 14-03-2022	<b>End date:</b> 17-03-2022
<b>Unit 10 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 21-03-2022	<b>End date:</b> 24-03-2022
<b>Unit 11 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 28-03-2022	<b>End date:</b> 31-03-2022
<b>Unit 12 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 04-04-2022	<b>End date:</b> 07-04-2022
<b>Unit 13 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 25-04-2022	<b>End date:</b> 28-04-2022
<b>Unit 14 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 03-05-2021	<b>End date:</b> 05-05-2022
<b>Unit 15 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 09-05-2022	<b>End date:</b> 12-05-2022
<b>Unit 16 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 13-09-2021	<b>End date:</b> 21-09-2021
<b>Unit 17 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 27-09-2021	<b>End date:</b> 05-10-2021
<b>Unit 18 (de 40):</b>	

<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 11-10-2021	<b>End date:</b> 19-10-2021
<b>Unit 19 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 25-10-2021	<b>End date:</b> 02-11-2021
<b>Unit 20 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 08-11-2021	<b>End date:</b> 16-11-2021
<b>Unit 21 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 22-11-2021	<b>End date:</b> 30-11-2021
<b>Unit 22 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Class Attendance (theory) [PRESENCIAL][Lectures]	4.6
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	3.5
Group 40:	
<b>Initial date:</b> 13-12-2021	<b>End date:</b> 21-12-2021
<b>Unit 23 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 14-09-2021	<b>End date:</b> 14-09-2021
<b>Unit 24 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 21-09-2021	<b>End date:</b> 22-09-2021
<b>Unit 25 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.17
Group 40:	
<b>Initial date:</b> 28-09-2021	<b>End date:</b> 29-09-2021
<b>Unit 26 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.59
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.16
Group 40:	
<b>Initial date:</b> 05-10-2021	<b>End date:</b> 06-10-2021
<b>Unit 27 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.58
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.16
Group 40:	
<b>Initial date:</b> 19-10-2021	<b>End date:</b> 20-10-2021
<b>Unit 28 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.59
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.16
Group 40:	
<b>Initial date:</b> 26-10-2021	<b>End date:</b> 27-10-2021
<b>Unit 29 (de 40):</b>	
<b>Activities</b>	<b>Hours</b>
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]	1.59
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]	4.16
Group 40:	

Initial date: 09-11-2021		End date: 10-11-2021	
Unit 30 (de 40):			
Activities		Hours	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		1.59	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		4.16	
Group 40:			
Initial date: 16-11-2021		End date: 17-11-2021	
Unit 31 (de 40):			
Activities		Hours	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		1.59	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		4.16	
Group 40:			
Initial date: 23-11-2021		End date: 24-11-2021	
Unit 32 (de 40):			
Activities		Hours	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		1.59	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		4.16	
Group 40:			
Initial date: 30-11-2021		End date: 01-12-2021	
Unit 33 (de 40):			
Activities		Hours	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		1.59	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		4.16	
Group 40:			
Initial date: 14-12-2021		End date: 15-12-2021	
Unit 34 (de 40):			
Activities		Hours	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		1.59	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		4.17	
Group 40:			
Initial date: 21-12-2021		End date: 22-12-2021	
Unit 35 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 11-10-2021		End date: 11-10-2021	
Unit 36 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 22-11-2021		End date: 22-11-2021	
Unit 37 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 21-12-2021		End date: 21-12-2021	
Unit 38 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 02-03-2022		End date: 02-03-2022	
Unit 39 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 07-04-2021		End date: 07-04-2021	
Unit 40 (de 40):			
Activities		Hours	
Progress test [PRESENCIAL][Assessment tests]		1	
Group 40:			
Initial date: 11-05-2022		End date: 11-05-2022	
Global activity			
Activities		hours	
Progress test [PRESENCIAL][Assessment tests]		6	
Laboratory practice or sessions [PRESENCIAL][Project/Problem Based Learning (PBL)]		38	
Class Attendance (theory) [PRESENCIAL][Lectures]		46	
Practicum and practical activities report writing or preparation [AUTÓNOMA][Problem solving and exercises]		100	
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]		35	
		Total horas: 225	

## 10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Jack Wilmore y David Costill	Fisiología del Esfuerzo y del Deporte <a href="http://www.paidotribo.com/">http://www.paidotribo.com/</a>	Paidotribo	Barcelona	978-84-8019-916-2	2010	
Kapit, Macey y Meisami	The Physiology Coloring Book	Harper y Row		0-06-043479-1		
Mulroney y Myers	Fundamentos de Fisiología	Elsevier-Masson		978-84-458-0200-7	2001	
Ricardo Mora Rodríguez	Fisiología del deporte y del ejercicio; practicas de campo y de laboratorio <a href="http://www.medicapanamericana.com/Libros/Libro/3768/Fisiologia-del-deporte-y-el-ejercicio.html">http://www.medicapanamericana.com/Libros/Libro/3768/Fisiologia-del-deporte-y-el-ejercicio.html</a>	Medica Panamericana	Madrid	9788498352702	2010	