<table>
<tr><td>Subject</td><td colspan="3">Advanced science of training and exercise</td></tr>
<tr><td rowspan="2">Type</td><td>Type</td><td>Semester</td><td>ECTS</td></tr>
<tr><td>MANDATORY (M)</td><td>V</td><td>5</td></tr>
<tr><td>Lecturer</td><td colspan="3">Dr.Sc. Milaim Berisha</td></tr>
<tr><td>Aims and Objectives</td><td colspan="3">The aim of this course is for students to develop foundational knowledge and understanding of the advanced sport and exercise science disciplines of psychology, biomechanics and physiology. Additionally, this course aims to encourage students to foster a multi-disciplinary approach to understanding the contemporary scientific determinants of elite performance within a range of different sporting contexts.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="3">Upon successful completion of the course, students will be able to:
✓ Explain the significance of advanced sport and exercise science to sports performance, participation and to the coaching context.
✓ Identify and explain some of the key advanced concepts, principles, theories and perspectives associated with different areas of sport and exercise science.
✓ Demonstrate an understanding of the advanced principles and application of sports biomechanics, sports psychology and exercise physiology to sport performance and participation and to the coaching context.
✓ Apply sport and exercise science knowledge and understanding to sport, exercise, and coaching context.
✓ Perform advanced physiological, psychological and biomechanical measurements, analyze and interpret these different types of data.
✓ Apply theory and advanced principles to practice through relevant practical/laboratory work; including solving biomechanical problems and understanding how physiological and psychological theories apply to practice.</td></tr>
<tr><td rowspan="17">Content</td><td>Week</td><td colspan="2">Topics</td></tr>
<tr><td>1</td><td colspan="2">Evolution of Coaching</td></tr>
<tr><td>2</td><td colspan="2">Advanced Exercise Physiology</td></tr>
<tr><td>3</td><td colspan="2">Advanced Biomechanics and Movement Analysis</td></tr>
<tr><td>4</td><td colspan="2">Advanced Technology in Sport</td></tr>
<tr><td>5</td><td colspan="2">Analysis of human movement pattern</td></tr>
<tr><td>6</td><td colspan="2">Advanced Periodization and Program Design</td></tr>
<tr><td>7</td><td colspan="2">Mid-term exam – 1</td></tr>
<tr><td>8</td><td colspan="2">Advanced load monitoring techniques</td></tr>
<tr><td>9</td><td colspan="2">Advanced Nutrition for Exercise</td></tr>
<tr><td>10</td><td colspan="2">Advanced Strength and Power Training</td></tr>
<tr><td>11</td><td colspan="2">Cardiovascular and Metabolic Considerations</td></tr>
<tr><td>12</td><td colspan="2">Exercise Prescription for Special Populations</td></tr>
<tr><td>13</td><td colspan="2">Current Trends and Research in Exercise Science</td></tr>
<tr><td>14</td><td colspan="2">Review of current literature and research in exercise science</td></tr>
<tr><td>15</td><td colspan="2">Mid-term exam – 2</td></tr>
<tr><td rowspan="5">Teaching/Learning Methods</td><td colspan="2">Activity</td><td>Weight (%)</td></tr>
<tr><td colspan="2">Lectures</td><td>40%</td></tr>
<tr><td colspan="2">Lab</td><td>40%</td></tr>
<tr><td colspan="2">Research</td><td>10%</td></tr>
<tr><td colspan="2">Independent learning</td><td>10%</td></tr>
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Assessment Methods	**Methods of assessment:**		%
	Participation		10%
	a) Mid-term exam -1		20%
	b) Mid-term exam - 2		20%
	Seminars		10%
	Individual and group work		10%
	Final exam		30%
Resources	**Resources**		**Number**
	Lectures		1
	Presantations		1
	Web of science		1
	PubMed		1
	Scopus		1
ECTS Workload	**Activity**	**Weekly hours**	**Workload**
	Lectures	2	24
	Lab	1	12
	Independent learning	n/a	64
	Examination preparation	n/a	25
Literature	• Plowman, S. A., & Smith, D. L. (2013). Exercise physiology for health fitness and performance. Lippincott Williams & Wilkins. • McArdle, W. D., Katch, F. I., & Katch, V. L. (2010). Exercise physiology: nutrition, energy, and human performance. Lippincott Williams & Wilkins. • Robertson, G. E., Caldwell, G. E., Hamill, J., Kamen, G., & Whittlesey, S. (2013). Research methods in biomechanics. Human kinetics. • Heyward, V. (2010). Advanced Fitness Assessment and Exercise Prescription, 6E. Human kinetics. • Weinberg, R. S., & Gould, D. S. (2011). Foundations of sport and exercise psychology. Human Kinetics. Beside the indicated books, scientific publications relevant to the field will be used to prepare the lectures, which will be made available for students through the moodle platform.		
Ethical standards	This course follows UBT College's Code of Ethics, requiring all students to behave accordingly. Any case of academic misconduct, including but not limited to cheating, plagiarism, or other forms of dishonesty, will lead to significant punishment such as failure of the specific assessment or the entire course, as well as further disciplinary measures in accordance with UBT College's academic integrity policies.		
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