Course Description Form

Course Description

This course description provides a concise summary of the main features of the course and the learning outcomes expected of students, demonstrating whether the course has made the most of the available learning opportunities. It must be linked to the program description.

1- Educational institution	Faculty of Physical Education and Sports Sciences
2- Scientific Department / Center	Branch of Sport Sciences
3- Course Name/Code	Biomechanics Stage 2 **SESS25F2041**/ SESS25G2041
4- Available attendance forms	My presence
5- Semester/year	2024-2025
6- Number of study hours (total)	6 hours per week
7- Date this description was prepared	2024 - 2025
8- Course objectives:	

studies or field of work in the future.

9- Course outcomes, teaching, learning and assessment methods:

Teaching and learning methods:

1- Lectures accompanied by explanation and clarification.

2- Discussion and brainstorming.

3- Using illustrative and practical examples to enrich the scientific material.

4- Discussion groups and research groups.

5- Ongoing daily assignments to improve understanding of topics.

Evaluation methods:

1- Exams are weekly and monthly.

2- Classroom participation

3- Evaluation of reports and research

C- Thinking skills

C1- Intellectual and mathematical analysis skills.

C2- Skills for employing the vocabulary learned in practical reality through studying specific real-life problems.

C3- Skills of prediction and future studies of topics related to kinematics.

10- Course structure:

week	hours	Required learning outcomes	Unit name/topic	Teaching method	Evaluation method
1	6 hours	Weekly student evaluation / theoretical discussions	General Introduction	Live teaching and lectures	Written/oral tests, homework assignments, and research report preparation
2	6 hours		Chapter One: The Concept of Biomechanics / Sections of Biomechanics		
3	6 hours		The relationship of biomechanics to other sciences		
4	6		Chapter Two: Basic Movements		

	hours		in the Human Body / Axes and Planes		
5	6 hours		Relativity of motion and the coordinate system		
6	6 hours		Chapter Three: The Concept of Kinetics / Its Divisions (Linear and Angular)		
7	6 hours		Distance and Displacement / Scalar and Vector Quantities		
8	6 hours		Types of motion/speed		
9	6 hours		Acceleration		
10	6 hours		Projectile motion		
11	6 hours		Chapter Four: Angular Metric / Angular Distance and Angular Displacement		
12	6 hours		peripheral velocity		
13	6 hours		angular velocity		
14	6 hours		angular acceleration		
15	6 hours		Mathematical problems about velocity and angular acceleration		
Mid-year holiday					
16	6 hours	Weekly student evaluation / theoretical discussions	Chapter Five: Newton's Laws	Live teaching and lectures	Written/oral tests, homework assignments, and research report preparation
17	6 hours		Weight and mass		
18	6 hours		Payment and momentum		
19	6 hours		Friction		
20	6 hours		Work, power, and energy		
21	6 hours		power		
22	6 hours		Centrifugal force and centripetal force		
23	6 hours		Collision/Pressure		
24	6		Chapter Six: Angular Kinetics		

	hours				
25	6 hours		Centers of gravity/stability		
26	6 hours		moment of inertia		
27	6 hours		Angular momentum / Angular energy		
28	6 hours		Extracting the body's centers of gravity		
29	6 hours		Chapter Seven: Quantitative and Qualitative Analysis of Movement		
30	6 hours		How to calculate mechanical variables		

11- Infrastructure:	
1- **Required textbooks (methodology if any)**	There is a specific curriculum book (a curriculum for all public and private universities)
2- **Main references (sources)**	Sports Biomechanics / Professor Dr. Samir Muslat Al-Hashemi
3 - **Recommended supporting books and references (scientific journals, reports...) Electronic references, websites**	Research Groups - Workshops - Lectures

12- Curriculum development plan:
- **Periodic review of the study sites.** - **Diversifying the methods used in the teaching process.**

Biomechanics teachers

Second stage / morning and evening study

Prof. Dr. Muhammad Khalil

Prof. Dr. Falah Taha Hamou

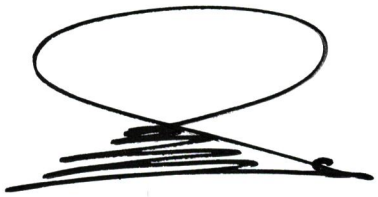
Prof. Dr. Walid Ghanem Dhnoon

Asst. Prof. Dr. Abdul Malik Suleiman

Asst. Prof. Dr. Nawaf Awad Abboud

Asst. Prof. Dr. Omar Farouk Younis

Asst. Lect. Rahab Joko Hussein



Prof. Dr. Ali Hussein Mohammed

Head of the Branch of Sports Sciences

//2025

Prof. Dr. Nibras Younis Mohammed Al Murad

Dean of the College

//2025