



BTEC SPORT YEAR 12
HALF TERM 1

<p align="center"><u>UNIT 1</u> <u>ANATOMY & PHYSIOLOGY</u> <u>TEACHER - DS</u></p>	<p align="center"><u>UNIT 1</u> <u>ANATOMY & PHYSIOLOGY</u> <u>TEACHER - KW</u></p>
<p>Learning Aim A – Skeletal System</p>	<p>Learning Aim C – Respiratory System</p>
<p><u>A1 – Understand the Structure of skeletal system</u></p> <ul style="list-style-type: none"> • Identification of major bones • Types of bones • Areas of skeleton • Structure of vertebrae • Postural deviations <p><u>A2 – Functions of skeletal system</u></p> <ul style="list-style-type: none"> • 8 functions of skeletal system • Functions of each bone type <p><u>A3 – Joints</u></p> <ul style="list-style-type: none"> • Location of major joints • Classification of major joints • Structure of a synovial joint • Types of synovial joints • Range of movement at each <p><u>A4- Responses of skeletal system</u></p> <ul style="list-style-type: none"> • Production of synovial fluid • Viscosity of synovial fluid • Mineral uptake 	<p><u>C1 – Structure of the respiratory system</u></p> <ul style="list-style-type: none"> • Identification of respiratory structures • Passageway of air <p><u>C2 – Functions of the respiratory system</u></p> <ul style="list-style-type: none"> • Mechanics of breathing • Gaseous exchange <p><u>C3 – Lung volume</u></p> <ul style="list-style-type: none"> • Tidal Volume • Vital capacity • Residual Volume • Total Lung Volume • Minute ventilation <p><u>C4- Control of breathing</u></p> <ul style="list-style-type: none"> • Neural control • Chemical control <p><u>C5 – Responses of respiratory system</u></p> <ul style="list-style-type: none"> • Increased breathing rate • Increased tidal volume



<p><u>A5 – Adaptations of skeletal system</u></p> <ul style="list-style-type: none"> • Increased bone density • Increased ligament strength <p><u>A6 – Additional factors</u></p> <ul style="list-style-type: none"> • Arthritis • Osteoporosis • Age 	<p><u>C6 – Adaptations of respiratory system</u></p> <ul style="list-style-type: none"> • Increased vital capacity • Increased muscular strength • Increased diffusion rate <p><u>C7 – Additional factors</u></p> <ul style="list-style-type: none"> • Asthma • Altitude and partial pressure
<p>Learning Aim B – Muscular System</p>	<p>Learning Aim D – Respiratory System</p>
<p><u>B1- Characteristics and functions</u></p> <ul style="list-style-type: none"> • Types of muscles – Cardiac, skeletal, smooth <p><u>B2 – Skeletal muscles</u></p> <ul style="list-style-type: none"> • Identification of major skeletal muscle <p><u>B3 – Antagonistic muscle pairs</u></p> <ul style="list-style-type: none"> • Agonist • Antagonist • Fixator • Synergist <p><u>B4 – Types of contraction</u></p> <ul style="list-style-type: none"> • Isometric • Concentric • Eccentric <p><u>B5- Fibre types</u></p>	<p><u>D1 – Structure of cardiovascular system</u></p> <ul style="list-style-type: none"> • Structure of cardiovascular system • Structure of blood vessels • Composition of blood <p><u>D2- Function of Cardiovascular system</u></p> <ul style="list-style-type: none"> • Passageway of blood • Delivery of Oxygen and nutrients • Removal of waste products Thermoregulation • Fight infection • Clot blood <p><u>D3- Nervous control of the cardiac cycle</u></p> <ul style="list-style-type: none"> • Conduction process • Sympathetic/Parasympathetic nervous system <p><u>D4- Responses of the cardiovascular system</u></p> <ul style="list-style-type: none"> • Anticipatory rise



- Type 1
- Type 2a
- Type 2x

B6 – Responses

- Increased blood supply
- Increased muscle temperature
- Increased muscle pliability
- Lactate
- Micro tears

B7 – Adaptations

- Hypertrophy
- Increased tendon strength
- Increased myoglobin stores
- Increase no. and size mitochondria
- Increased glycogen stores
- Increase storage of fat
- Increased tolerance to lactate

B8 – Additional factors

- Age
- Cramp

- Increased HR
- Increased cardiac output
- Increased blood pressure
- Redirection of blood flow

D5 – Adaptations of the cardiovascular

- Cardiac hypertrophy
- Increased resting and exercising SV
- Decrease in resting HR
- Capillarisation of skeletal muscle and alveoli
- Reduction in resting BP
- Decreased HR recovery time
- Increased blood volume

D6 – Additional factors

- SADS
- High/Low blood pressure
- Hyperthermia/Hypothermia

HALF TERM 2

TEACHER – DS/KW

Learning Aim E – Energy Systems

E1- Role of ATP

- Adenosine triphosphate



- *Immediate accessibility*
- *Breakdown and re-synthesis for muscle contraction*

E2- The ATP-PC system

- *Anaerobic*
- *Chemical source – Phosphate and Creatine*
- *Resynthesis of ATP*
- *Recovery time*
- *Duration and Intensity*

E3- Lactate System

- *Anaerobic glycolysis*
- *Recovery time*

E4- Aerobic system

- *Site of reaction – mitochondria*
- *Food fuel source*
- *Aerobic glycolysis*
- *Krebs cycle*
- *Electron transport chain*
- *Recovery time*

E5- Adaptations to energy systems

- **ATP-PC**
- *Increased creatine stores*
- **LACTATE SYSTEM**
- *Increased tolerance to lactate*
- **AEROBIC SYSTEM**
- *Increased use of fats*
- *Increased glycogen storage*



- *Increased number of mitochondria*

E6- Additional factors

- *Diabetes*
- *Children's lactate development*

HALF TERM 3

TEACHER – DS/KW

Learning Aim F - Synoptic

- Muscular and skeletal
- Muscular and respiratory
- Muscular and circulatory
- Muscular and energy
- Cardiovascular and respiratory
- Energy and Cardiovascular

EXTERNAL EXAM JANUARY SERIES



Spring 1 – USA/Ideologies

US Supreme Court and civil rights

- Nature and role of the Supreme Court
- The appointment process for the Supreme Court
- The Supreme Court and public policy
- The protection of civil liberties and rights in the US today
- Race and rights in contemporary US politics
- Interpretations and debates of the US Supreme Court and civil rights

Comparisons to the UK – the basis for their power, impact on government and policy, relative independence of each Court, effectiveness of rights protection in each country, impact/effectiveness of interest groups in protecting rights

Ideology: Socialism

- Core ideas and principles, and how they relate to human nature, the state, society and economy
- Tensions between revolutionary and social democracy
- Ideas of key thinkers – Marx, Engels, Webb, Luxemburg, Crosland, Giddens



Spring 2 – USA/Ideologies

US Congress

- The structure of Congress
- The functions of Congress
- Interpretations and debates around Congress

Comparisons to the UK – membership of each House in each country, power of each House, relationship between the two houses in each system

Ideology: Anarchism

- Core ideas and principles, and how they relate to human nature, the state, society and economy
- Tensions between differing types of this ideology
- Ideas of key thinkers



Summer 1 – USA/Ideologies

Federalism

- The main characteristics of US federalism
- Interpretations and debates around the US Constitution and federalism

Comparisons to the UK – how far the UK model of devolution parallels the US federal system

Ideology: Anarchism

- Core ideas and principles, and how they relate to human nature, the state, society and economy
- Tensions between differing types of this ideology
- Ideas of key thinkers

Revision

Summer 2

Examination: UK Politics and Core Ideologies, UK Government and Non Core Ideologies, Comparative Politics: USA