

# BA HUMAN PERFORMANCE 12

District Name: Kamloops/Thompson  
District Number: 73  
Developed by: Greg Kozoris  
Date Developed: April 19, 2004  
School Name: Brock Secondary School  
Principal's Name: Mr. Tom Elliott  
Board/Authority Approval Date: 2005/05/30  
Board/Authority Signature:  
Course Name: Human Performance 12  
Grade Level of Course: 12  
Number of Course Credits: 4  
Number of Hours of Instruction: 110  
Pre-requisites: None

Unit Title	Time
1. Scientific Principles	10
2. Flexibility	10
3. Functional Core Training	5
4. Balance and Proprioception	5
5. Cardiovascular Training	10
6. Nutrition	5
7. Foot speed and agility	10
8. Resistance weighttraining	40
9. Program design	10
10. Plyometrics	5

## Course Synopsis

This course has been designed in order to provide a holistic approach to self prescribing exercise for adolescents. Students learn a variety of scientific principles, techniques and methodologies pertaining to strength and conditioning. Students will understand how to condition and train the body in order to practically apply these methods onto themselves with the hope that they will continue to live a healthy active lifestyle. The base approach of this course is science and knowledge that transforms to the practical use of these methodologies and principles. A variety of units are used in order to cover all topics that are encompassed under the title of Human Performance. Exercise physiology and its subsequent foundations are the corner stone of this class.

## Rationale

Human Performance serves to promote and provide for a healthy active lifestyle, lifelong learning and the skills and knowledge necessary to invigorate the students to be self-directed and motivated.

This course creates an appreciation for the personal benefits of high level training and physical fitness. It is paramount that students learn the principles of training the human body and the specific methodologies that suit their individual development and needs to promote a lifetime of fitness.

## Unit 1 – Scientific Principles

Students will become familiar with the scientific principles pertaining to training the human body and learn how to employ them in a practical setting.

It is expected that the students will:

- learn the principle of progressive overload, sets, repetitions, frequencies, intensities, volumes, time frames, types of exercises.
- learn the concept of periodization, work to rest ratios, and contractile forces.
- learn muscle physiology, anatomy, and skeletal systems, range of motion and chemical exchanges.
- learn overtraining, overreaching, rest and recovery and how it relates to the human body.
- learn how the different energy systems are employed.

- learn adaptation, body composition and health trends.

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#### Unit 2 – Flexibility

It is expected that students will learn how to pre workout stretch and post workout stretch the musculature in order to attain a full range of motion about the joints.

- Students will learn static stretching, techniques, dynamic stretching and proprioceptive neural facilitation techniques and their scientific foundations.

#### Unit 3 – Functional Core Training

It is expected that students will learn the different techniques, exercises and methodologies that train the core area. The core area consists of abdominal sheaths, erector spinae, multifundis, internal and external oblique, transverse oblique and rectus abdominus groups. Student will learn how to target and balance these areas.

#### Unit 4 – Balance and Proprioception

It is expected that students will learn how to use proprioceptive devices in order to train balance.

- Students will learn exercises that incorporate unstable environments in order to learn the principles of stretch reflex and intrafusal muscle fibre activation.

#### Unit 5 – Cardiovascular Training

It is expected that students will learn how to train the aerobic and anaerobic energy systems via running and modality training.

Students will learn how to manipulate work to rest ratios and monitor heart rates in order to differentiate between glycolytic and oxidative types of exercise.

#### Unit 6 – Nutrition

It is expected that students will learn the function of carbohydrates, proteins, fats, vitamins and minerals and how they affect the human body.

Students will learn and explore the properties of popular supplements and be able to make their own sound judgments in regards to there effects.

#### Unit 7 – Food speed and agility

It is expected that students will learn the science, techniques and methodologies involved in acceleration and decelerating and changing direction in regards to human movement.

Different resources are employed in order to use a variety of training techniques.

#### Unit 8 – Resistance Weighttraining

It is expected that students will learn the proper techniques and methodologies involved in performing and designing weight training programs.

Students will learn how to periodize and manipulate sets, reps, volumes intensities and frequencies in order to realize development in the domains of hypertrophy, endurance, power, strength and ballistic properties.

#### Unit 9 – Program Design

It is expected that students will learn how to design their own program in a holistic sense.

Student will practically apply their knowledge in an effort to design various training components for themselves.

Students will incorporate nutrition, cardiovascular strength, flexibility and cross training components as they pertain to scientific periodization paradigms.

#### Unit 10 – Plyometrics

It is expected that students will learn how to design and employ the principles pertaining to plyometric explosive training.

Students will learn how to create a scientifically sound explosive speed and power program via grand based and modality based training.

#### Instructional Component

The instructional component of this course includes the use of scientific knowledge, concepts and methodologies in order to achieve the outcomes of each unit. It involves the use of resources, facilities, text and demonstrations that can be employed to meet the diverse student needs and to deliver the curriculum and utilizes various instructional strategies and activities.

#### Assessment Component

This assessment component provides opportunities to assess formatively and summatively the student's achievement in the prescribed outcomes at each unit.

Students are assessed in each unit in the following manner:

Participation and Effort = 60%

- daily evaluation

- student/teacher conference

- includes leadership, volunteering
- Training Diary = 20%
- Tests = 10%
- Projects = 10%

#### Learning Resources

(As per special training, facilities or equipment required)

Track, resistance weight training gym, bar bells, dumbbells, mats, proprioceptive devices, medicine balls, skip ropes, physioballs, wobble boards, resistance running straps and harnesses, classroom, reading resources, video, speed ladders, cones, pylons, stop watches, hip sled.