



### Land Acknowledgement

We respectfully acknowledge the Syilx Okanagan Nation and their peoples, in whose traditional, ancestral, unceded territory UBC Okanagan is situated.

**Course Code & Title:** HES481 Pediatric Exercise Physiology

**Faculty:** Faculty of Health and Social Development

**Department:** Health and Exercise Sciences

**Instructor(s):** Ali McManus

**Instructor(s) Email:** ali.mcmanus@ubc.ca

**Duration:** Term 2 Winter 2024

**Delivery Modality:** Hybrid

**Course Location:** ART 206

**Course Days:** Wednesday & Friday

**Class Hours:** 3:30 – 5:00pm

**Office hours:** One-on-one or group zoom meetings are available by appointment – please contact me via the Canvas email system to arrange office hours.

**Course Description:** Investigation into the physiological responses of children and adolescents to exercise.

**Course Structure:** This is a data-driven, case-based course. There are three key topics in the syllabus and each has an aligned case-study. Lectures will be online on Fridays. These introduce key theoretical concepts and it is an expectation that these online lectures and other relevant readings or associated materials posted on Canvas will have been completed prior to Wednesday's workshop. Workshop sessions take place on Wednesdays. These sessions involve hands-on data analysis and application and discussion. They are important for ensuring you understand the data, content and its application, as well as the development of evidence-based arguments to be used in the case reports.

**Course Overview, Content and Objectives:** The aim of this module is to develop your understanding of the unique physiological responses of children and adolescents to exercise and discuss this in relation to age, sex and biological maturity. You will be challenged to act and think like a pediatric exercise physiologist through the analyses of various case scenarios.

**Learning Outcomes or Objectives:** Upon successful completion of this course, students will be able to:

1. Explain the growth and development of children and adolescents, make use of growth charts, analyse maturation and apply growth and development data to exercise case scenarios.
2. Describe the normal physiological responses of the child to aerobic and anaerobic exercise.

3. Interpret exercise test data, compiling various outcomes in order to appraise and evaluate a child's exercise response.
4. Assess the energetic cost of physical activity and inactivity and its application to habitual movement in the child.
5. Present and defend judgements about exercise responses and habitual movement during childhood and adolescence based on evidence-based arguments.

### Methods of Assessment

Assessment	Details	Weighting in final course grade (%)	Alignment with LOs
Workshop Activities	Includes analyses of data for each of 7 workshops. Each worth 5%.	35%	1,2,3,4
Case Write-Up	Case 1: Growth and Development Case 2: Acute exercise responses Case 3: Habitual movement	15% 25% 25%	1,2,3,4,5

## Course Schedule

Week	Wednesday	Friday	Reading, Assessment & Deadlines
Week 1 08/10 Jan	Course Overview	<b>CASE 1</b> Monitoring Growth	Complete online lecture and reading before Wednesday
Week 2 15/17 Jan	Workshop 1 (5%) Monitoring growth using growth charts Interpreting velocity	Maturation & Growth	Workshop 1 Submit to Canvas by Sunday 19 <sup>th</sup> Jan 11.59pm
Week 3 22/24 Jan	Workshop 2 (5%) Somatic markers of maturation. Tanner staging	Energy, exercise and growth	Workshop 2 Submit to Canvas by Sunday 26 <sup>th</sup> Jan 11.59pm
Week 4 29/31 Jan	Growth and exercise debate.  Case 1 consolidation	Energy needs, exercise, growth & maturation	
Week 5 5/7 Feb	Workshop 3 (5%) Interpretation & application of maximal & threshold data.	<b>CASE 2</b>  Physiological responses to exercise in the child	Workshop 3 Submit to Canvas by Sunday 9 <sup>th</sup> Feb 11.59pm

Week 6 12/14 Feb	No class	Exercise testing in the child.	Case Report #1 Closes Sunday 23 <sup>th</sup> Feb 11:59pm
Feb 17-20	READING BREAK		
Week 7 26/28 Feb	Workshop 4 (5%) Interpretation of submaximal data.	Dynamic interactions of gas exchange and progressive exercise in children.	Workshop 4 Submit to Canvas by Sunday March 2 <sup>nd</sup> 11.59pm
Week 8 5/7 March	Workshop 5 (5%) Energy cost of physical activity	<b>CASE 3</b> Habitual movement in the Child	Workshop 5 Submit to Canvas by Sunday 9 <sup>th</sup> March 11.59pm
Week 9 12/14 March	Workshop 6 (5%) Monitoring habitual movement with wearables.	Exercise training	Workshop 6 Submit to Canvas by Sunday 16 <sup>th</sup> March 11.59pm Case Report #2 Closes Sunday 22 <sup>nd</sup> March 11:59pm
Week 10 19 /21 March	Workshop 7 (5%) Monitoring sitting	Physical activity	Workshop 7 Submit to Canvas by Sunday 23 <sup>rd</sup> March 11.59pm
Week 11 26/28 March	3-min Research Plan presentation	Inactivity and sitting	
Week 12 2/4 April	Course Wrap-Up Case 3 consolidation		Case Report #3 Closes Sunday 13 <sup>th</sup> April 11:59pm

## **Learning Materials**

All required readings for this course will be available via Canvas. Under the weekly module within Canvas you will see a "weekly prep" section. In this section you will find links to all of the required readings and assigned videos that are freely available.

## ***Other Course Policies:***

**Late policy:** For each day late 5% is deducted.

## **UBC Values**

UBC creates an exceptional learning environment that fosters global citizenship, advances a civil and sustainable society, and supports outstanding research to serve the people of British Columbia, Canada, and the world. UBC's core values are excellence, integrity, respect, academic freedom, and accountability.

### **Policies and Regulations**

Visit [UBC Okanagan's Academic Calendar](#) for a list of campus-wide regulations and policies, as well as [term dates and deadlines](#).

## **Academic Integrity**

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course. Careful records are kept to monitor and prevent recidivism.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the [Academic Calendar](#).

## **Academic Misconduct**

The academic enterprise is founded on honesty, civility, and integrity. Violations of academic integrity (i.e., [academic misconduct](#)) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred for consideration for academic discipline. Careful records are kept to monitor and prevent recurrences. Any instance of cheating or taking credit for someone else's work, whether intentionally or unintentionally, can and often will result in at minimum a grade of zero for the assignment, and these cases will be reported to the Head of the Department and Associate Dean Academic of the Faculty.

## ***Student Service Resources:***

### **Walk-In Well-Being Clinic**

The Walk-In Well-Being clinic offers no-fee, brief, single-session psychological services. Sessions are led by a doctoral student in clinical psychology and supervised by a registered psychologist (UBCO Faculty member). Clinicians can provide support with stress management, sleep, self-care, depression, anxiety, interpersonal issues, substance misuse, coping with academic demands/stressors, and provide options for connecting to additional resources. Virtual or in-person sessions are available at the UBCO Psychology Clinic, located in ASC 167 with or without an appointment, on Tuesdays and Thursdays between 10 am and 3 pm from September to June, excluding campus closures.

UNC 337 250.807.8421 (ext. 1)

Email: [jpc.ok@ubc.ca](mailto:jpc.ok@ubc.ca)

Web: <https://psych.ok.ubc.ca/psychology-clinic/walk-in-wellness/>

### **Student Supports, Resources & Campus Services**

Visit the [Student Support and Resources page](#) to find one-on-one help or explore resources to support your experience at UBC Okanagan, as well as many other campus services available to all students.

### **Advising Options**

Visit the [Advising Options page](#) to find out about the variety of advising options available to students including but not limited to academic, career and accessibility.

### **Safewalk**

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at **250-807-8076**.

Web: [www.security.ok.ubc.ca](http://www.security.ok.ubc.ca)