McMASTER UNIVERSITY
Department of Kinesiology

KINESIOLOGY 2F03

Human Growth, Motor Development, And Physical Activity

Fall Term, 2015

Dr. John Cairney
Office location and hours: T.B.A. (or by appointment) email: cairnej@mcmaster.ca
Lectures: Mondays, Thursdays, 11:30am-12:20pm & Friday 1:30pm to 2:20pm ITB 137

COURSE DESCRIPTION

This is a required entry-level course in Human Growth, Development, and Physical Activity for students in the 2nd year Kinesiology program. The content in KIN 2FO3 focuses on age- and gender-related changes in general somatic growth, development, and maturity spanning the pre-natal period to early adulthood, with an introduction to the factors that regulate these processes. The course provides a foundation for further courses in third and fourth year, such as KIN 3UO3, Human Growth and Development: Genetic and Neuro-endocrine Regulation of Somatic Growth, Muscle, Physical Activity and Performance.

KIN 1AO3, 1AA3, 1AO6, 1EO3 and registration in KIN Level II are prerequisites for this course. This course is a pre-requisite for admission to KIN 3UO3 Human Growth and Development: Genetic and Neuro-endocrine Regulation of Somatic Growth, Muscle, Physical Activity and Performance. This course is also a pre-requisite for KIN 4QO3 Pediatric Exercise Physiology.

COURSE OBJECTIVES

1. Introduction to the concepts of somatic growth, maturation and development.

2. Introduction to study designs and basic measurement techniques used to assess somatic growth, biological maturation and development.

3. Examination of key statistical and conceptual constructs in the formulation and application of growth charts with specific reference to the definition of “normal” growth and the prediction of future somatic growth, health and physical performance outcomes.

4. Examination of developmental stage, chronological age, sex and maturity-associated variation in somatic growth and development related to strength, fitness and physical activity.

From conception to adulthood in human beings!
POLICY REGARDING DEFERRED TESTS AND EXAMS

Students who miss the term test or final exam for legitimate reasons such as illness may be allowed to write a deferred or "make-up" test. The time and date of the re-write will be arranged with the instructor but should be completed as close to the original date of the exam as possible. In all instances, appropriate documentation must be submitted to the Office of the Associate Dean, Faculty of Science.

Students who miss a Registrar-scheduled final exam can apply to the Associate Dean’s office for permission to write in the deferred final exam schedule. In all cases, appropriate documentation must be submitted to the Office of the Associate Dean, Faculty of Science, for consideration of deferred examination permission. Under no circumstances will the instructor re-schedule a final exam for individual students.

ACADEMIC INTEGRITY

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences (e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript reading "Grade of F assigned for academic dishonesty", and/or suspension or expulsion from the university). It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at: https://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf

The following illustrates only three forms of academic dishonesty:

- Plagiarism (e.g. the submission of work that is not one's own or for which other credit has been obtained),
- Improper collaboration on individual work.
- Copying or using unauthorized aids in tests and examinations.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone (905) 525-9140 ext. 28652 or email sas@mcmaster.ca. For further information, consult McMaster University’s Policy of Academic Accommodation of Students with Disabilities. http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicAccommodation-StudentsWithDisabilities.pdf
COURSE FORMAT:

The course will consist of three (3) one-hour lectures per week for the entire term (not withstanding lost class time for the in class mid-term exam, statutory holiday, and midterm recess (see dates below). Students will complete a written assignment (see Blog below) over the course of the term, integrating all relevant course lecture material, reading and internet information as required. This assignment (hard copy) is due no later than Friday November 21, IN CLASS (no drop box). A late penalty of 2% per day will be deducted from all late submissions.

LECTURE NOTES: Lecture notes, in PowerPoint and PDF formats, will usually be available on Avenue to Learn in advance of the lecture (although this may not always be possible). Information on these slides may only be partially complete and students are expected to attend class and incorporate supplemental information discussed by the instructor to the summary comments on the slides. Online lecture materials will not be available, however, until the beginning of classes in September!

REQUIRED READINGS / TEXT / ANCILLARY – BLOG ASSIGNMENT

Course Text:

The text, Growth, Maturation and Physical Activity will be used as the main reference source for this course and is RECOMMENDED. While students do not necessarily have to purchase their own copy of this text, it is important to remember that exam content will come from this text and supplemental information presented in lectures. Three copies of the course text have been requested to be on reserve in Thode Library. These may be heavily used and not always available when requested. For your information, this text is also the recommended text for KIN 3U03 and is a great resource for KIN 4Q03, Pediatric Exercise Physiology, so if you invest now, you can re-use the textbook in later years.

Growth, Maturation and Physical Activity, R.M. Malina, C. Bouchard and O. Bar-Or, Second Edition, Human Kinetics Publishers Inc.; Champaign, Il., 2004; ~$110.00 Cdn. new in the McMaster Bookstore or at reduced price as a used copy from the tank or from students who have already taken this course.

BLOG Writing Assignment:

You will be provided via Avenue with 3 articles that discuss the problem of early specialization in sport and its associated health consequences for children and youth. The assignment will be to write a 500-word blog entry for either parents and/or coaches to educate them on the dangers of specialization to child health and wellbeing. To do so, you will need to synthesize and then summarize the information in the articles (and relevant information from the course) and write a
short essay for a non-technical or layperson audience in a way that is both informative and engaging. The purpose of this assignment is twofold: (1) to give you more experience writing generally; and (2) to give you opportunity to practice taking scientific evidence/opinion and translating it into written form that can be understood by a general audience. You will be graded both on content (your understanding of the material) and style (your ability to write an interesting and informative short essay). More detail will be provided in lecture.

**STUDENT RESPONSIBILITIES**

1. Attendance at ALL lectures.
2. Completion of Mid-term exam – date and format to be FINALIZED in class (tentative dates are below)
3. Completion of the blog writing assignment – detail to be provided in class
4. Completion of the final exam during the regular Fall Term examination period.

**Topics to be Covered (time permitting):**

1. **Concepts & Perspectives in Human Growth, Maturation and Development. Ch.1**
   1.1. definitions and context: growth, maturation and development
   1.2. rationale for studying these phenomena

2. **Approaches & Techniques In The Study of Human Growth, Maturation, Development, and Physical Activity. Ch. 1, 3**
   2.1. basic study designs and research approaches in growth studies
   2.2. measurement and observation principles in growth/maturity assessment
   2.3. prenatal and postnatal assessment techniques
   2.4. common applications of growth charts
   2.5. concepts of channeling and tracking

3. **Functional Development. Ch. 9,10**
   3.1. heart, blood, and lungs
   3.2. motor development

4. **Body Composition and Adipose Tissue. Ch 8, 5**
   4.1. adipose tissue structure and function
   4.2. assessment of body composition

5. **Biological Maturation: Concepts and Assessment. Ch. 15**
   5.1. maturity indicators: skeletal, sexual, somatic, dental, and neuromuscular maturation

6. **Strength and Performance. Ch. 11, 17**
   6.1. fitness and physical activity
   6.2. strength and motor performance relationship
6.3. maturity-associated variation in performance

7. **Aerobic Performance. Ch. 12, 17**
   7.1. aerobic metabolism and assessment
   7.2. growth-related adaptations in aerobic performance

8. **Anaerobic Performance. Ch. 13, 17**
   8.1. anaerobic metabolism and assessment
   8.2. growth-related adaptations in anaerobic performance

10. **Physical Activity. Ch. 21**
    10.1 physical activity: what is it?
    10.2 physical activity: assessment/measurement and correlates

11. **Physical Activity Ch. 22**
    11.1 physical activity related to growth, maturation and performance

**EVALUATION**

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<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mid-term Exam</td>
<td>30%</td>
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<tr>
<td>Written Assignment (Blog Entry)</td>
<td>30%</td>
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<tr>
<td>Final exam</td>
<td>40%</td>
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<tr>
<td><strong>Total</strong></td>
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*All instructors for all undergraduate courses, except supervised study, thesis and research/study courses, be required to return grade material equal to a minimum of 10% of the session’s total mark prior to the final date which a student may withdraw from a course without academic penalty. For the Fall 2015 semester this date is Friday November 13, 2015*

**IMPORTANT TENTATIVE DATES:**

- Sept 8th 2016: Classes commence (introduction to course)
- October 20th, 2016: Midterm Exam
- October 10th to 16th, 2016: Midterm Break
- December 7th, 2016: Final class (review session)
- December 9th to 22nd, 2016: Final Exam (scheduled by Registrar)

**IMPORTANT NOTES:**

**Privacy**
Lecture notes, class schedule, and other notices may be posted electronically. Please be aware when you access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become
apparent to all other students in the course. Continuation in this course will be deemed your consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Absence from class
In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar “Requests for Relief for Missed Academic Term Work”. Please note these regulations have changed beginning Fall 2015. If you are absent from the university for a minor medical reason, lasting fewer than 3 days, you may report your absence, without documentation, using the McMaster Student Absence Form. Absences for a longer duration or for other reasons (e.g., Religious, personal) must be reported to your Faculty/Program office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to INSTRUCTOR EMAIL@mcmaster.ca. Then contact the instructor/lab TA immediately (normally within 2 working days) by email/telephone/in person to learn what relief may be granted for the work you have missed, and relevant details such as revised deadlines, or time and location of a make-up exam.

MODIFICATIONS TO COURSE:

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.