

**MCMASTER UNIVERSITY**  
**Department of Kinesiology**

Kinesiology 2E03: Musculoskeletal Anatomy

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**Fall 2017**

Prof. Krista Madsen ([madsenk@mcmaster.ca](mailto:madsenk@mcmaster.ca))

IWC 215 – office hours will be posted on Avenue. If my door is open you are welcome to drop in and say hi. Appointments are usually best.

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**A. DESCRIPTION**

Our course uses interactive lectures and hands-on lab sessions to study the three-dimensional structure and function of the osseous, articular, muscular, nervous and supportive tissues of the human body. This course will expose students to a variety of learning strategies and will focus on developing the ability to interpret human movement. The course is designed to provide students with an applied experience regarding human musculoskeletal anatomy, with an emphasis on connections between anatomic and mechanical functions as they relate to human movement.

**B. OBJECTIVES**

- a. Students will study the structure and function of the human body using a variety of resources (i.e., partner interaction, models, digital images, atlas of human anatomy, etc.)
- b. Students will improve their self-directed learning skills.
- c. Students will be able to describe the attachments, action(s), and function(s) of selected muscles in the upper and lower extremity, and spine.
- d. Students will be able to describe the structure and function of the skeletal system.

- e. Students will be able to identify the attachments and function(s) of primary connective tissues (ligaments, capsules, menisci) supporting the selected peripheral joints of the upper and lower extremity, and of the spine.
  - f. Students will be able to describe the functions and pathways of the major peripheral nerves supplying the upper and lower extremity.
  - g. Students will learn to palpate, approximate or demonstrate the location of selected muscles in the upper and lower extremity.
  - h. Students will learn to palpate, approximate or demonstrate the location of primary connective tissues (ligaments, capsules, menisci) of selected peripheral joints in the upper and lower extremity.
  - i. Students will learn to palpate, approximate or demonstrate the location of selected skeletal landmarks.
  - j. Students will be able to observe and qualitatively analyze gross human movement.
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### C. REQUIRED TEXT

Schuenke, M., Schulte, E., Schumacher, U. (2014). *Thieme Atlas of Anatomy: General Anatomy and Musculoskeletal System* (2<sup>nd</sup> ed.). New York, NY: Thieme Medical Publishers Inc.

**NOTE: The first edition of this textbook is not recommended.**

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### D. OTHER RESOURCES

i>Clicker: Register your device online at <https://www1.iclicker.com/register-clicker/>

[3d4 Anatomy Apps](#), Muscle and Skeletal systems are most relevant for this course

- NOT REQUIRED but you may find them valuable

## E. THIS IS HOW WE DO THINGS

1. Introduce (and re-introduce) yourself when you talk to me in class – I would like to get to know you. Do the same with your TAs.
  2. We work on a first name basis. Please start emails with something like “Hi Krista” and finish with your name and a friendly/professional sign-off.
  3. Be mentally where you are physically.
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## F. CONTENT OUTLINE

### Unit 1 – Lower Extremity, weeks 1 - 4

- Foundations of movement analysis
  - Foot, ankle, leg, knee, thigh, hip, pelvis
  - RED section of the Atlas
  - 2 labs – dates are posted on Avenue
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### Unit 2 – Upper Extremity, weeks 5 - 8

- Shoulder, arm, elbow, forearm, wrist and hand
  - ORANGE section of the Atlas
  - 2 labs – dates are posted on Avenue
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### Unit 3 – Spine and Peripheral Nerves, and Integration - weeks 9 to 12

- Cervical, thoracic and lumbar spine
- Ribcage and abdomen, pelvis
- Peripheral nerves of the upper and lower extremities
- Connections to the upper and lower extremities
- GREEN section of the Atlas

## G. EVALUATION

Test locations will be posted on Avenue.

Test 1	35%	Friday October 6 <sup>th</sup> , 5:30pm to 7:30pm
Test 2	35%	Friday November 3 <sup>rd</sup> , 5:30pm to 7:30pm
Test 3	30%	Scheduled by the Office of the Registrar

### What to expect from a test:

1. More specific information for each unit will be posted on Avenue, prior to each test.
2. Tests may include short to long answer written questions (1 to 12 marks), multiple choice, and fill in the blank questions.
3. You may be asked to draw simple diagrams to illustrate movement (stick and block figures).
4. You will be asked questions that require you to analyze human movement presented in short videos that run during a test.
5. You may be asked questions regarding surface anatomy from videos and/or still images presented during a test.
6. Tests will cover material from lectures, practical classes, and independent work assigned. Any additional out-of-class material to be covered in a test will be identified ahead of time.

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## H. POLICY REGARDING DEFERRED TESTS AND EXAMS

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 and are effective Fall 2015.**

If you use the MSAF you must report your absence to me by email **within 2 working days** in order to request accommodation ([madsenk@mcmaster.ca](mailto:madsenk@mcmaster.ca)). If you fail to do so you may forfeit your opportunity for accommodation and receive a score of zero on your evaluation.

Students who miss Test 1 or Test 2 for legitimate reasons such as illness will be accommodated with a deferred test - I will confirm a test date and communicate this with you by email.

**Deferred tests may be rescheduled as late as December 1<sup>st</sup>, 2017.**

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.

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## I. USE OF COURSE MATERIALS

Course materials provided by the instructor are for use by students registered in this class only. Under no circumstances are these materials to be shared, posted or sold to a third party without permission from the instructor. This includes, but is not limited to, online posting of instructor provided lecture/lab notes, online lectures, recordings of lectures, or any lab materials on a website other than the Avenue site designed for the course.

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## J. 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:

<http://www.mcmaster.ca/univsec/policy/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 group work.
- Copying or using unauthorized aids in tests and examinations.

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## K. 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. 2865 or e-mail [sas@mcmaster.ca](mailto:sas@mcmaster.ca) . For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.

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## L. ON-LINE LEARNING RESOURCES

Students should be aware that, when they 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 same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

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## M. 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.

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## N. FEEDBACK

It really helps us improve our services when we hear from our students, faculty and staff about what we can do better. A feedback process brings to our attention situations in which we may not have adequately considered accessibility and allows us to better plan for accessibility in the future.