

HEALTH SCIENCES 2F03-2FF3
Human Anatomy and Physiology

Fall (2F03)/Winter (2FF3) Term
2017-2018

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1. COURSE OVERVIEW

Course Description of Human Anatomy and Physiology

Welcome! Health Sciences 2F03/2FF3 is a multidisciplinary introductory course concerning human anatomy and physiology. The course includes four complementary activities: lectures, tutorials and laboratories.

The purpose of this course in the first semester (2F03) will be to introduce you to major concepts in human anatomy and physiology surrounding structure and function (in the context of skin and muscle), communication (nervous and endocrine systems) and locomotion (musculoskeletal system). In the second semester (2FF3), you will be introduced to the major concept of homeostasis through examination of various organ systems (e.g. cardiovascular, respiratory, immune, gastrointestinal and urogenital), which work in concert to maintain balance within the body's internal milieu.

The Bachelor of Health Science Anatomy and Physiology HTHSCI 2F03/2FF3 course is part of a larger course for students in five programs:

- Nursing
- Bachelor of Health Sciences
- Midwifery
- Chemical Engineering and Bioengineering
- Electrical and Bioengineering

The BHSc and Midwifery cohorts share similar evaluation structure.

Course Objectives

Upon completion of the course, students will be able to:

1. Integrate structure and function of various systems in the human body.
 2. Integrate roles with the functions of the major body systems.
 3. Recognize the relationship between basic knowledge and clinical practice.
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Learning Activities

Lectures (MDCL 1305): 2 hrs/wk
Emphasize integration of anatomy (structure) and physiology (function) through a systems approach.

Laboratories (IAHS 451): 2 hrs/2 wks
An online (Avenue to Learn) pre-lab quiz must be completed prior to coming to lab. The lab is intended as a **self-directed** experience. A TA will be stationed at each activity and will be available for guidance and to help to challenge and stimulate your learning. You are responsible to complete the activities associated with each lab. Some activities in the lab manual/study guide should be completed before attending the lab.

The activities in the laboratory will be guided by the laboratory manual (see Support Materials section). The sections for each lab are indicated in the course schedule. Information about changes to the lab will be posted on Avenue to Learn if necessary.

Tutorials (HSC 1R14/1R6):

2 hrs/2 wks

Support structure/function integration and basic science/clinical relationships. Tutorials and Laboratories will be held on alternate weeks. There will be a quiz at the beginning of every tutorial session, followed by time in the anatomy laboratory to review materials (wet specimens/models/etc) related to the course. The content evaluated on every quiz is indicated on the course calendar.

Students will alternate weekly between tutorials and laboratories. The tutorial group you are assigned to, will dictate your schedule. You will remain in the same tutorial throughout the year (i.e. both semesters).

- **Please see Avenue for your specific tutorial and laboratory assignment schedules. Do NOT switch groups without the express consent of the Laboratory Coordinator.**

Material Presented in 2F03/2FF3

Fall Semester: *Communication – Locomotion*

- Homeostasis overview
- Cells, Tissues, Organs, Systems
- Integument, Muscle
- Nervous System
- Special Senses
- Musculoskeletal System (regional approach including the Nervous system)
- Endocrine System

Winter Semester: *Homeostasis*

- Cardiovascular System
- Respiratory System
- Gastrointestinal System
- Immune System
- Reproductive Biology
- Urogenital System (including Acid-base regulation)

Core Faculty for the overall Anatomy and Physiology Course

Curriculum Coordinators:

Dr. A. Ball (Engineering); Dr. T. Hawke (BHSc); Dr. P. Helli (Nursing); Dr. B. Wainman (Midwifery)

Additional Lecturers

- Dr. I. Bayer
- Dr. C. Zavitz

BHSc Program Faculty

Course Coordinator:

Dr. Thomas Hawke – Health Sciences Centre
4N65 hawke@mcmaster.ca
(905) 525-9140, Ext. 22372

Laboratory Coordinator : Health Sciences Center 1R6C, APlab@mcmaster.ca, Ext. 26868

TA: Your TAs will be Esai Bishop, Dexter Choi, Emily Cino, Ashley Lam, Candice Luo, Lucy Luo, Eric Mauti, Peter Song, David Jonghyuk Shin, Gareth Leung, Jaskaran Gill, Max Zeung Chen, Rebecca Leclair, Liliana Wolak, Mohammad (Javad) Niazmand, Kelvin Ng, Parsa Mehrabanfar, Annie Anyi Yu, Feroze Nooruddin, Rohit Malyala and Hannah Byles. **TAs should be contacted only through Avenue to Learn.**

Your contact persons will be:

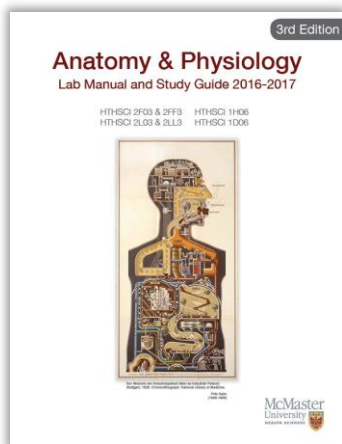
- (1) your TA
- (2) the lab coordinator
- (3) the course coordinator

Note: Please identify the appropriate party for your email. E.g. questions regarding laboratory material should be directed to the TA or the lab coordinator.

MSAF forms should be emailed to the Lab Coordinator at APlab@mcmaster.ca. Please keep a record of all MSAF forms submitted.

2. SUPPORT MATERIALS

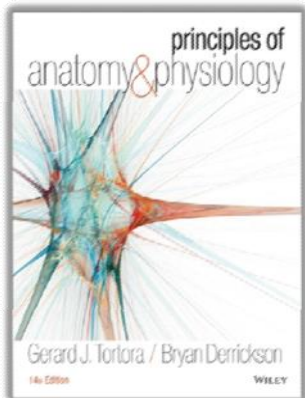
A Lab Manual is **required** for the course.



A **Laboratory Manual & Study Guide** is required for the course and is available as Custom Courseware in the Bookstore.

In addition to a guide for laboratory exercises, the Laboratory Manual contains key words and images that require labelling with the key words. A completed Laboratory Manual also serves as a Study Guide.

No other books are required. Information presented in lecture and in the Laboratory Manual & Study Guide can be supplemented from a variety of sources including introductory Anatomy and Physiology textbooks and on-line resources. Students are encouraged to utilize the supplemental resources that best fits their learning style.

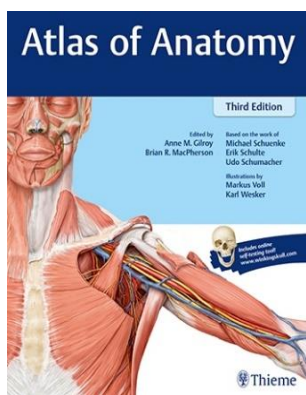


Textbook:

A textbook is recommended, but not necessary to complete the course. *Principles of Anatomy and Physiology*, Tortora & Derrickson (eds) 14th edition, published by Wiley is available in the bookstore.

The recommended text is NOT the only text that would be suitable. Previous editions are also suitable, as are texts by several other authors. If you are unsure, contact your instructor. The recommended text is a good introductory book, covering normal human anatomy and physiology in detail, and comes with online access to additional resources from the Wiley Website, including quizzes for each chapter of the text.

Atlas:



Most of the illustrations used in the lecture slides and Labor*atory Manual & Study Guide come from the recommended Atlas.

Atlas of Anatomy. Gilroy, 3rd edition. A.M., B.R. MacPherson, L.M. Ross. 2016. Thieme Medical Publishers, Inc. ISBN 9781626232525

An Anatomy Atlas is a useful resource to assist in completing the exercises in the Laboratory Manual as well as studying for the practical exams (Objective Structured Practical Exam (OSPE; “Bellringer”). The 3rd Edition of the atlas is available free and online through the library <http://winkingskull.com/pages/Home> If you wish to use images from the Atlas of Anatomy you can go to the <http://www.thiemeteachingassistant.com/Home> where you can modify and download images.

iPad applications are powerful alternatives to textbooks because they are interactive. Particularly recommended are:

Brain and Nervous System Pro III 3D4 Medical <https://www.youtube.com/watch?v=kvMmsjGgkp0>
Visible Body Muscle Premium
Cold Spring Harbor 3D Brain

Online Anatomy and Physiology Course Content

Avenue to Learn (Avenue) will be used by the faculty and staff to convey information (test locations, times, announcements) to the students taking this course, therefore **regular (daily) use of Avenue is essential to ensure you are aware of all course announcements**. Avenue accounts are created automatically for all registered students. Instructions on accessing and using Avenue will be provided in the introductory sessions of the course.

Avenue will also be used to make available:

- Current course information
- Course Syllabus
- Lecture slides (PowerPoint format)
- Lecture audio files (MP3 format)
- Pre-lab quizzes
- Course marks
- Forums for discussions
- Email faculty, staff and TAs

*** Passwords and User ID's (MacID) are those assigned by McMaster ***

***A MacID will be assigned to *all* students, whether or not they are located at McMaster ***

3. COURSE EVALUATIONS

*This course evaluation description and mark breakdown is provided as a guide, and may be altered due to unforeseen circumstances during the course of the year. Notification of changes will be provided on Avenue.

Fall Semester:

*Tutorial Quiz 1	4%
*Tutorial Quiz 2	4%
*Tutorial Quiz 3	4%
*Tutorial Quiz 4	4%
*Tutorial Quiz 5	4%
*Tutorial Quiz 6	4%
Midterm	20%
Midterm Bellringer (OSPE)	0%
#Prelab Quizzes (6 total)	5%
End of term Exam	
[MCQ 20%, OSPE 35%]	<u>55%</u>
	100%

Winter Semester:

*Tutorial Quiz 1	5%
*Tutorial Quiz 2	5%
*Tutorial Quiz 3	5%
*Tutorial Quiz 4	5%
*Tutorial Quiz 5	5%
Midterm	20%
#Prelab Quizzes (6 total)	5%
End of term Exam	
[MCQ 30%, OSPE 25%]	<u>55%</u>
	100%

* **Note:** Lowest mark of the 6 fall tutorial quizzes will be dropped. The lowest mark of the 5 winter tutorial quizzes will be dropped.

Note: Lowest mark of 6 prelab quizzes will be dropped. Thus, each quiz is worth 1% of final grade.

IMPORTANT:

📢 Students may NOT bring in any course materials, recording devices (audio, video, etc) or cell/smartphones with them during quizzes or the examinations. If a cell/smartphone or other digital equipment is found on your person it will immediately be deemed a breach of Academic Integrity and will be dealt with according to McMaster University policy. No recording or documenting (including making hand-written notes) will be allowed during examination take-up. This will be considered a breach of Academic Integrity and will be dealt with according to McMaster University policy.

4. TUTORIAL AND PRE-LAB QUIZZES

Pre-lab Quizzes (5%)

There will be a pre-lab quiz available online from one week prior to your lab and will be taken offline prior to your scheduled lab time. Therefore, you must complete the quiz prior to attending the associated lab. Attendance at labs is mandatory and attendance is taken.

You must attend your lab in order to keep your pre-lab quiz mark. If you fail to attend the lab, your mark will be changed to a zero (0). If you miss a laboratory, please contact the lab coordinator as soon as possible. It may be possible to make up the lab. Missed work forms are available at www.mcmaster.ca/msaf/.

Your lowest quiz grade of the semester will be dropped so that your quiz grade will be calculated from the highest 5 grades from the 6 quizzes first semester and from the highest 4 grades from the 5 quizzes second semester.

Prior to undertaking your first pre-lab quiz, you will be required to undertake an academic integrity

IMPORTANT: MSAFs will be accepted for a missed lab (in order to secure your pre-lab quiz mark) but MSAFs will not be accepted for missed Pre-lab quizzes.

Tutorial Assessments (4% each, fall semester and 5% each, winter semester)

Objective: To integrate the laboratory and lecture experiences in a problem based format. Tutorials will give you an opportunity to synthesize knowledge and keep you on task with the material present in lecture and labs.

Quiz: There will be a quiz at the beginning of every tutorial. The content that will be evaluated is based primarily on lecture content. The schedule can be found on the course calendar as well as below. The lowest quiz grade per semester will be dropped.

Practice Questions: Following the quiz, students will then enter the anatomy lab where there will be bell ringer style questions and a case study setup for self-study/group-study purposes. You will be expected to review these questions and collaborate with peers to discuss different possible pathologies using correct terminology. These questions will not be formally evaluated but are intended to help prepare you for the OSPE style examination at the end of the semester as well as integration of material.

Content Evaluation Schedule:

Fall Semester

Tutorial/Quiz #1: Lecture 1 & Lab Safety (4%)
Tutorial/Quiz #2: Lectures 2-4 (4%)
Tutorial/Quiz #3: Lectures 5-8 (4%)
Tutorial/Quiz #4: Lectures 9-12 (4%)
Tutorial/Quiz #5: Lectures 13-16 (4%)
Tutorial/Quiz #6: Lectures 17-20 (4%)

Winter Semester

Tutorial/Quiz #1: Lecture 1 & Lab Safety (5%)
Tutorial/Quiz #2: Lectures 2-6 (5%)
Tutorial/Quiz #3: Lectures 7-11 (5%)
Tutorial/Quiz #4: Lectures 12-15 (5%)
Tutorial/Quiz #5: Lectures 16-19 (5%)

IMPORTANT: MSAFs may not be used for missed tutorial sessions. A mark of 0 (on that respective quiz) will be allocated for missed tutorials.

5. EXAM INFORMATION

MULTIPLE CHOICE MIDTERM WRITTEN EXAM (20%)

A written/multiple choice (MCQ) midterm exam will take place during class time. Specific information regarding content of the exam and specific rooms for writing will be posted on Avenue in advance of the Midterm.

MIDTERM BELLRINGER (OSPE) (0%)

Specific procedures for the Midterm (practice) Bellringer (OSPE) will be provided on Avenue course homepage. You will be given a strict 2 minutes per station. Please bring your Student ID card, a pen/pencil. Please write clearly. Following the completion of exam, the exam answers will be discussed.

FINAL EXAM (55%)

Final exams will employ both a multiple choice question (MCQ) section as well as Bell Ringer (OSPE) section. End of term finals will be comprehensive (i.e. cover all material presented in the semester) and will be similar in format to that of the midterm MCQ and OSPE exams. Exam Schedule will be posted on Avenue.

6. EXAM VIEWING/DISSEMINATION

Exam viewing

A Midterm MCQ exam review will take place with the date, time and location posted on Avenue. There will be no review available for midterm OSPE. As noted above, **no recording or documenting** (including making hand-written notes) **will be allowed during examination take-up**. The specific details regarding the exam will be posted on Avenue closer to the date. In the interest of reviewing the full exam within the hour, no questions will be permitted during the exam take-up.

Final exam viewing can only take place with a formal written request. The procedures for requesting a final exam viewing are set out in a document available on Avenue. No viewing of final exams can take place until all deferred exams have been conducted. If you have submitted a request, please watch Avenue for specific viewing location and time.

Grade dissemination

Avenue will be used to disseminate grades. In the interest of full disclosure, all marks (including any 'rounding' bonuses) will be clearly documented on Avenue. **If you feel there has been an error in grade entry or addition, please contact the Lab Coordinator ([using APlab@mcmaster.ca](mailto:APlab@mcmaster.ca)) and cc Dr. Hawke in an effort to rectify the potential error.** Please do NOT contact the Lab Coordinator or Dr. Hawke requesting extra marks (i.e. being 'bumped' to the next letter grade). These requests will NOT be considered and an email response will not be provided.

Note: if you have submitted an MSAF it will (usually within 1 week) be documented on Avenue for you to see. The assignment/exam for which the MSAF was submitted will show a 0 until the end of the semester at which point all MSAFs grade re-weightings will take place. Please do not contact the Lab Coordinator about this situation unless you do not see an MSAF notification.

Please keep an email record of all MSAFs submitted in case this documentation is needed in the future.

SENATE POLICY

7. ACADEMIC DISHONESTY

In preparation for this course, students are asked to read the Academic Integrity Policy and Student Code of Conduct approved by the Senate, which are found here:

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 (link above), specifically Appendix 3.

The following illustrates only three forms of academic dishonesty:

1. **Plagiarism:** “submit[ing] academic work that has been, entirely or in part, copied from or written by another person without proper acknowledgement, or, for which previous credit has been obtained” (see **Appendix 3 of AIP**). This includes **copied material** (unless quoted within quotation marks) whether a citation is provided or not. However, extensive use of quotes is not acceptable in submissions for the Anatomy & Physiology course. Plagiarism also includes **improper paraphrasing**. Paraphrasing is hard work and takes time. You must re-write the thought or idea into your own words and your own sentence structure. Copying the sentence and changing two or three words is not acceptable.
2. **Improper collaboration in group work.** Although students may work collaboratively in the laboratory, tutorials and collecting necessary background information for essays, reports, presentations and quizzes; they must independently prepare essays, presentations, reports and quizzes.
3. Copying or **using unauthorized aids in tests and examinations.**

8. DISCRIMINATION, HARASSMENT AND BULLYING

McMaster University is committed to creating an academic environment free of discrimination, harassment and bullying. No student, staff or faculty member should be required to work, study or live in an environment that is intimidating, hostile or offensive as a result of the behavior of the people around them. McMaster has policies designed to deter and stop bullying, harassment and discrimination on campus. The Office of Human Rights and Equity Services exists to implement those policies and provide support to people who are the targets of discrimination, harassment or bullying.

What is Discrimination?

Discrimination means treating people differently, negatively or adversely on the basis of race, age, religion, sex, or other human rights grounds.

What is Harassment?

Harassment means engagement in a course of vexatious comments or conduct, *related or not related to a human rights ground*, that is known, or ought reasonably to be known, as unwelcome.

For further information, on University’s policies, or for assistance with an issue, visit the Human Rights and Equity Services website: <http://www.mcmaster.ca/hres/homepage.html>

9. MSAFs

McMaster’s information regarding McMaster Student Absence Forms can be found on the following website: <http://www.mcmaster.ca/msaf/> . Please follow the steps outlined for MSAF submission and notify the lab coordinator at aplab@mcmaster.ca.

The following is a summary of the use of MSAFs and how the grade will be distributed in each situation.

Prelab quizzes: MSAFs will **NOT** be accepted for missed prelab quizzes.

Laboratory: MSAFs will be accepted for missed labs in order to retain the prelab quiz grade. If an MSAF is not submitted for a missed lab, the prelab quiz grade for that particular lab will be changed to a 0.

Tutorial Quizzes: MSAFs will **NOT** be accepted for missed tutorial quizzes.

Midterm: MSAFs will be accepted for a missed midterm. The average grade of the final MCQ and OSPE will be used in its place. NOTE: the grade on Avenue to Learn will show as 0 until after the final exam is written.

Final MCQ and OSPE: MSAFs are not accepted for any portion of the final exam.

10. ACCOMODATIONS

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. **As the midterm and final MCO are both managed independent of the registrar, those who require any accommodations must schedule a time with SAS on their own to arrange a time to write their exams.** Once confirmation is received by the student, the student must forward a copy to aplab@mcmaster.ca so we are aware of the necessary accommodations. Student Accessibility Services can be contacted by phone 905-525-9140, ext. 2865 or e-mail sas@mcmaster.ca . For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.