Instructor: Mark Frasier, Associate Professor, Colorado State University
Email: mark.frasier@colostate.edu
Phone: (970) 420-2499
Time Zone: Mountain Standard Time

Required Prerequisite for BMS 310
- One course in college-level biology.

If you have questions regarding your academic background/preparedness before you register for BMS 310, please contact instructor Mark Frasier.

Course Textbooks/Instructional Materials
- Most required materials must be purchased through the CSU Bookstore.
- The required text Essential Clinical Anatomy (Moore, 5th edition) and the optional, but highly recommended, atlas may be purchased from the retailer of your choice.

Required Textbooks/Software
1. ESSENTIAL CLINICAL ANATOMY (MOORE, 5TH edition)
2. HUMAN (GROSS) ANATOMY LECTURE NOTES (FRASIER)
3. VIRTUAL EDGE: TEXT W/SOFTWARE* – HUMAN PROSECTION GUIDE (FRASIER)

*An information card with a product key is included in the VIRTUAL EDGE: TEXT W/SOFTWARE. The information card will direct you to a specific website and to enter the product key and download the software to your computer.

Optional Textbook
The purchase of an atlas is optional but is highly recommended. Choose one of the following:
1. ATLAS OF HUMAN ANATOMY – (NETTER)
2. COLOR ATLAS OF ANATOMY (ROHEN/YOKOCHI)

Important Dates/Registration Confirmation
Important dates associated with the course (begin and end dates; drop, withdrawal, and university withdrawal deadlines) can be found in the Registration Confirmation that you should have received 24-48 hours after you registered for BMS 310. Please check your CSU email and your spam and junk folders for this information. If you are still unable to locate your Registration Confirmation, you may request a copy by sending your name, CSU ID number, and the name of the course to the following address: csu_online_registration@Mail.Colostate.edu
ALL COURSEWORK FOR BMS 310 IS COMPLETED IN CANVAS (COLORADO STATE UNIVERSITY’S LEARNING MANAGEMENT SYSTEM)

Accommodations

Students who believe that they may need accommodations in this class are encouraged to contact the Student Disability Center (SDC) as soon as possible to ensure that accommodations are implemented in a timely manner. For consideration of exceptions outside the scope of the SDC, please contact the University Testing Center.

How to Access BMS 310

1. Create your CSU Electronic Identification (eID)
2. Create your CSU password for the course
3. Log in to Canvas

Course Description and Goals

BMS 310 presents the gross anatomy of the human body from a regional perspective which utilizes clinical applications as a basis for anatomical understanding. Other disciplines such as physiology, embryology, histology, and anthropology will also be included when they assist in anatomical understanding.

The course has been designed to fit the needs of students preparing for careers in health-related fields including Fitness and Athletics; Pre-Medicine; Pre-Physical and Occupational Therapy; Pre-Physician Assistance; Nursing; Bio-Education (teachers!), and students who are simply interested in their own physical construction.

The LECTURE section of the course includes 42 class lectures that are delivered via streaming video in Canvas. Lectures are 40-50 minutes in length and were recorded in a live class of anatomy students at Colorado State University.

Lectures within the four regions of study include the following topics:

- The skeletal, muscular, vascular, and nervous system components of the upper and lower extremities.
- The vascular, nervous, and organ system components of the thorax, abdomen, and pelvis.
- The musculature and vasculature of the head, neck, and back.
- An overview of cranial nerves and the central nervous system.

The LAB section of the course includes the following subject matter:

- Computer-facilitated study using The Visible Human Dissector (VHD) software and The Virtual Edge Human Prosection Guide software. An emphasis is placed on identifying relationships and locations of anatomical structures and practicing anatomical vocabulary.

Importantly, the lectures and labs are intimately correlated and inseparable.
EXAM & GRADING POLICIES

Lecture Exams
There are four lecture unit exams. Each exam is worth 50 points for a total of 200 points. Each unit exam will emphasize the material in that unit. Questions will be taken from the video lectures. These are closed-book exams, are taken using Canvas, and are proctored by ProctorU.

Lab Exams
There are four laboratory unit exams. Each exam is worth 50 points for a total of 200 points. Questions will include the identification of tagged structures on The Visible Human Dissector from that unit. These are closed-book/closed-software exams, are taken using Canvas, and are proctored by ProctorU.

Lab Assessments
There are 12 laboratory assessments. Each assessment is worth either 4 or 5 points for a total of 50 points. Questions will be taken from the syllabus, The Visible Human Dissector, The Virtual Edge, and/or the laboratory exercise. These assessments should be taken after each corresponding laboratory exercise. These assessments are open-book, open-note, open-software, are taken using Canvas, and are not proctored.

Optional Comprehensive Final
An OPTIONAL final comprehensive lecture exam is available for students whose overall grade may be improved by taking the exam. The final comprehensive lecture exam score (if higher) can replace any one of the four lecture unit exams. The exam is taken using Canvas, is proctored by ProctorU, and is closed book. If the final comprehensive lecture exam score is lower than the lowest lecture exam score, it will not be used to replace one of the four lecture unit exams.

Final Grade Computation
Your final grade will be computed by using the grades from the four unit lecture exams (200 points), the four unit laboratory exams (200 points), and from the 12 open-book assignments (50 points) for a total of 450 points.

You can determine your overall grade at any time during the semester by dividing your actual points by the total points possible to that date. A grading curve is not used in BMS 310.

Letter grades will be calculated as follows:

A = 90% - 100% (405 points and above)
B = 80% - 89% (360 – 404 points)
C = 70% - 79% (315 – 359 points)
D = 60% - 69% (270 – 314 points)
F = Below 60% (269 points and below)

NOTE: No points are given for practice exams or for completing the academic integrity agreement found in Canvas.
EXAM PROCTORING

All exams in BMS 310 will be proctored in real time by a live proctor through ProctorU.

Colorado State University utilizes proctored exams to ensure academic integrity.

CSU has contracted with ProctorU to provide students with convenient, online exam proctoring. Proctor U is offered to you at no cost, is simple to use, and allows you to take all of your exams at home or at any other location that has a high-speed internet connection and a quiet, interruption-free environment. Please be aware of the following points:

1. Exams in BMS 310 must be taken via ProctorU.

2. If you have registered for BMS 310 and you do not possess the necessary system requirements or if you are unable to utilize ProctorU, you should drop the course. See page 8 of this syllabus for instructions on how to drop.

Please review the following system requirements to ensure that your computer will work with ProctorU:

ProctorU System Requirements

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web camera</td>
<td>640 x 480 resolution</td>
<td>1280 x 720 resolution</td>
</tr>
<tr>
<td>PC users</td>
<td>Windows Vista</td>
<td>Windows 10 (10 S is not supported)</td>
</tr>
<tr>
<td>Mac users</td>
<td>Mac OS X 10.5 or higher</td>
<td>Mac OS X 10.13 High Sierra</td>
</tr>
<tr>
<td>Internet download speed</td>
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<td>1.5 Mbps</td>
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<tr>
<td>Internet upload speed</td>
<td>.384 Mbps</td>
<td>1 Mbps</td>
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<td>RAM</td>
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<td>Ports</td>
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<td>1935, 843, 80, 443, 61613, UDP/TCP</td>
</tr>
</tbody>
</table>
**ProctorU System Requirements (continued)**

1. A functioning microphone (some web cameras have built-in microphones).

2. One of the following compatible web browsers (click to download):
   - [Google Chrome *(preferred)*](http://www.google.com/chrome)
   - Mozilla Firefox
   - Safari

3. The following plug-ins for your web camera (click to download):
   - [Adobe Flash Player *(version 12)*](http://get.adobe.com/flashplayer)
   - Adobe Shockwave Player

**Platforms Not Supported by ProctorU**

- Google Chromebooks (supported for G Suite Certification and G Suite Administrator exams)
- Tablets (e.g., Nexus, iPad, Tab, Note, etc.)
- Linux operating systems
- Windows 10 S or Surface RT
- No running inside a virtual machine. You will be asked to reconnect using your host operating system to take your exam.
- No development previews, beta builds or release candidates of any operating system unless specified.

**Questions?**

- ProctorU is available seven days a week, 24 hours a day (except some holidays).
- You can chat with a live person at [ProctorU](http://www.proctoru.com) via the internet, or you can call *(855) 772-8678.*
- Contact [ProctorU](http://www.proctoru.com) to perform an equipment test (if you need assistance) and to view FAQs *(Frequently Asked Questions).*
USING ProctorU

At Least Three Days Before Each Exam

- There are no pre-determined exam dates. Because the course is self-paced, you choose the dates you want to take each exam.

- There are a total of four (4) Unit Exams. Each Unit Exam consists of a one-hour Unit Lab Exam and a one-hour Unit Lecture Exam.

- You do not need to schedule all of your exams at once; however, you must schedule each of the four Unit Exams at least three days before the date you want to take the exam.

- You should schedule a total of two consecutive hours for each of the four Unit Exams--one hour for the Unit Lecture Exam and one hour for the Unit Laboratory Exam.

1. Go to ProctorU.

2. In the upper right-hand corner of the page, click the blue “LOGIN” button.

3. To log in, create a new account or use an existing account (if you have one).

4. To schedule an exam, click “schedule new sessions.”

5. Use the drop-down menu to select the appropriate term and exam.

6. If you have difficulty scheduling your exam, contact ProctorU and ask for assistance via the live chat option located in the bottom right-hand corner of the page. You may also contact ProctorU at (855) 772-8678.

The Day of the Exam

1. On the appropriate date and time of your exam, log into ProctorU and click on “exams.”

2. Following the procedures on the ProctorU website, log in to Canvas and open the appropriate exam.

3. When you access your exam on the scheduled day, there should be a timer on the “my sessions” tab of your account. When the timer reaches “0,” click “start session.” You will be connected with a proctor.

4. You will need to provide photo identification to your proctor before taking all exams.

5. Both exams need to be completed in the same two-hour time block, one exam immediately after the other. Exceeding 60 minutes on either the lecture or lab exam will result in a loss of exam points.

If you have difficulty establishing connectivity or taking your exam, contact ProctorU and ask for assistance via the live chat option located in the bottom right-hand corner of the page. You may also contact ProctorU at (855) 772-8678.

DO NOT SCHEDULE AN EXAM AT THE LAST MINUTE!
Doing so could result in your exam not being reviewed by the instructor.
Optional Comprehensive Final Exam

At the end of the course, you may elect to take an optional comprehensive final exam to improve your total score in the course (as described under “Exam and Grading Policies”). If you choose to take this exam, you must schedule a one-hour time block with ProctorU to do so.

**IMPORTANT!! IMPORTANT!! IMPORTANT!! IMPORTANT!! IMPORTANT!!**

- Failure to take a scheduled exam or scheduling and repeatedly canceling exams (especially at the last minute) could result in losing your ability to take exams through ProctorU.
- Without ProctorU you will be unable to take exams and, as a result, you will be unable to complete BMS 310.
- Making reservations to take an exam within three days of the exam are subject to a $5.00 late reservation fee.
- Making reservations to take an exam within one hour of the exam are subject to an $8.75 “Take it Now” fee.

Please scroll down. Syllabus continues on next page.
Please review the following information carefully as you are accountable for understanding the content. Please refer to the Registration Confirmation found at the bottom of the first page of this syllabus for specific dates/deadlines associated with BMS 310.

**Course Length**

- BMS 310 is a self-paced open-entry course. BMS 310 is not a traditional, semester-long course.

- BMS 310 is designed to be completed in four (4) calendar months from the date that your registration for the course has been processed. Because BMS 310 is self-paced, it is possible to complete the course in less than four months.

- If you do not complete the course within four calendar months, contact the instructor (Mark Frasier) to arrange for an extension of two additional months (a total of six calendar months from the date that your registration for the course was processed) to complete the course.

  If you do not complete BMS 310 within the extension period (six months total from the date that your registration for the course was processed), you will receive a grade for the course based on the work that you have completed.

**Drop, Withdrawal, and University Withdrawal Deadlines**

If you no longer want to remain enrolled in BMS 310, you may consider one of the following three options:

1. You may **DROP** BMS 310 within 20 calendar days of the date that your registration for BMS 310 was processed.
   - When you **DROP** BMS 310 within 20 calendar days, the title of the course and a grade will not appear on your CSU transcript.
   - You will receive a 100% refund of course tuition and fees.

2. You may **WITHDRAW** from BMS 310 after the 20-day drop period (see #1 above) and through 43 calendar days from the date that your registration for BMS 310 was processed.
   - When you **WITHDRAW** from BMS 310, the title of the course and a grade of “W” (Withdrawal) will appear on your CSU transcript.
   - You will not receive any refund of course tuition and fees when you withdraw from the course.

3. You may perform a **UNIVERSITY WITHDRAWAL** from BMS 310 up until and through the last day of classes of the semester that you registered for BMS 310 (the last day of classes is the Friday before final exam week begins). If you are not sure of the semester you registered for BMS 310, you may do one of the following:
   - Refer to the Registration Confirmation that you were sent via email after you registered for the course;
   - Review your class schedule on your RAMweb account.
To perform a University Withdrawal, you must also meet the following conditions:

- You must be taking BMS 310 during the fall or spring semester (University Withdrawals are not available during the summer);
- You must withdraw from your entire schedule of classes (regardless of whether you are taking one course or multiple courses).

**IMPORTANT!** If you are admitted to an undergraduate or graduate degree program at CSU and you complete a University Withdrawal, you will be dropped from your degree program. If you are receiving financial aid/assistance of any kind, this aid/assistance may also be affected. Consult your academic advisor before completing a University Withdrawal.

**PROCEDURES FOR DROPPING AND WITHDRAWING FROM A COURSE AND FOR COMPLETING A UNIVERSITY WITHDRAWAL**

You may request to drop or withdraw from a course or to complete a University Withdrawal by logging in to your RAMweb account and by clicking “Registration” to begin the process.

*You may not* drop or withdraw from a course by phone or by contacting your instructor.

**APPEALS**

Due to extenuating circumstances (e.g., death in the immediate family, serious medical condition, military deployment, natural disaster, calamity, etc.), there may be times when students are unable to meet the deadlines associated with performing a drop, a withdrawal, or a University Withdrawal.

For more information about the appeals process and about how to file a course registration/refund appeal (e.g., late or retroactive drop; late or retroactive withdrawal; refund of tuition and/or technology, course, and late fees), click **Appeals**.
BMS 310 COURSE SCHEDULE

- All readings listed below can be found in *Essential Clinical Anatomy* (Moore, 5th edition).
- All lectures are located on the BMS 310 Canvas course homepage in the four units of study.
- Labs are performed by using *The Visible Human Dissector* and the *Virtual Edge* software.

The following schedule lists the lectures and labs for each of the four units of study that can be found in Canvas:

### UNIT 1: LOWER LIMB

#### Section 1

**Lecture 1**  
Introduction to BMS 310 (same lecture in Introduction module)

**Lecture 2**  
Introduction to the Lower Limb

**Lecture 3**  
The Gluteal Region

**Labs**  
Open-book assessment #1 (4 points)  
Exercise 1* and Exercise 13, *Virtual Edge*  
*Exercise One only: “Anatomy common to all vertebrae” and “Anatomy common to sacral vertebrae.”*

**Readings**  

#### Section 2

**Lecture 4**  
Introduction to the Nervous System

**Lecture 5**  
Nerve and Blood Supply of the Lower Limb

**Lecture 6**  
The Knee

**Labs**  
Open-book assessment #2 (4 points)  
Exercise Fourteen, *Virtual Edge*

**Readings**  
Pages 27-33, 184, 208-209, 324-329, 331-337, 337-348, 359, 365, 374-384

#### Section 3

**Lecture 7**  
The Thigh

**Lecture 8**  
The Ankle and Leg

**Lecture 9**  
The Foot

**Labs**  
Open-book assessment #3 (4 points)  
Exercise Fifteen and Exercise Sixteen, *Virtual Edge*

**Readings**  
Pages 329-337, 342, 346-367, 385-395

#### EXAMS

**Unit 1: Lower Limb Lab Exam**

**Unit 1: Lower Limb Lecture Exam**
## UNIT 2: TAP (THORAX, ABDOMEN, AND PELVIS)

### Section 1

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>The Vertebral Column</td>
</tr>
<tr>
<td>11</td>
<td>Muscles of the Back</td>
</tr>
<tr>
<td>12</td>
<td>The Spinal Cord</td>
</tr>
</tbody>
</table>

**Labs**
- Open-book assessment #4 (4 points)
  - Exercise 1, *Virtual Edge*

**Readings**
- Pages 265-284, 295-308, 288-294

### Section 2

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>The Thorax and Lungs</td>
</tr>
<tr>
<td>14</td>
<td>The Heart</td>
</tr>
<tr>
<td>15</td>
<td>Coronary Circulation and Fetal Circulation</td>
</tr>
</tbody>
</table>

**Labs**
- Open-book assessment #5 (4 points)
  - Exercise Two, *Virtual Edge*

**Readings**
- Pages 43-51, 56-64, 64-76, 76-110

### Section 3

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topic</th>
</tr>
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<tbody>
<tr>
<td>16</td>
<td>The Abdominal Wall and Peritoneum</td>
</tr>
<tr>
<td>17</td>
<td>The Abdominal Viscera</td>
</tr>
<tr>
<td>18</td>
<td>The Abdominal Viscera Blood Supply and Return</td>
</tr>
</tbody>
</table>

**Labs**
- Open-book assessment #6 (5 points)
  - Exercise Three, *Virtual Edge*

**Readings**
- Pages 111-123, 130-194

### Section 4

<table>
<thead>
<tr>
<th>Lecture</th>
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<tbody>
<tr>
<td>19</td>
<td>Male Reproductive Anatomy</td>
</tr>
<tr>
<td>20</td>
<td>Female Reproductive Anatomy</td>
</tr>
<tr>
<td>21</td>
<td>The Autonomic Nervous System</td>
</tr>
</tbody>
</table>

**Labs**
- Exercise Four, *Virtual Edge*
  - There is no open-book assessment for this section.

**Readings**
- Pages 211-264, 33-42

### EXAMS

- Unit 2: Thorax, Abdomen, Pelvis Lab Exam
- Unit 2: Thorax, Abdomen, Pelvis Lecture Exam
# UNIT 3: HEAD & NECK

## Section 1
Lecture 22  The Skull  
Lecture 23  The Brain  
Lecture 24  Arterial Supply to the Head  
Labs  Open-book assessment #7 (4 points)  
Exercise Five, *Virtual Edge*  

## Section 2
Lecture 25  Cranial Meninges & Venous Return from the Head/Brain  
Lecture 26  Cerebrospinal Fluid & the Ventricular System  
Lecture 27  The Cranial Nerves & Facial Nerve (CN VII)  
Labs  Open-book assessment #8 (4 points)  
Exercise Seven, *Virtual Edge*  
Readings  Pages 492-500, 501-504, 507-510, 514-518, 644-646

## Section 3
Lecture 28  Trigeminal Nerve (CN V) and Muscles of Mastication  
Lecture 29  The Neck and Cervical Viscera  
Labs  Open-book assessment #9 (4 points)  
Exercise Six, *Virtual Edge*  
Readings  Pages 642-644, 537-561, 581-608

## Section 4
Lecture 30  The Pharynx  
Lecture 31  The Larynx  
Lecture 32  The Eye (Part I)  
Lecture 33  The Eye (Part II)  
Labs  Exercise Eight, *Virtual Edge*  
There is no open-book assessment for this section.  
Readings  Pages 616-626, 608-615, 518-536

**EXAMS**  
**Unit 3: Head & Neck Lab Exam**  
**Unit 3: Head & Neck Lecture Exam**
UNIT 4: UPPER LIMB

Section 1
Lecture 34  The Shoulder Region
Lecture 35  Pectoral and Shoulder Muscles
Labs       Open-book assessment #10 (4 points)
            Exercise Nine, Virtual Edge
Readings   Pages 465-471, 397-411, 414-419

Section 2
Lecture 36  The Axilla and the Breast
Lecture 37  The Brachial Plexus
Lecture 38  Upper Limb Blood Supply & Return
Labs       Open-book assessment #11 (4 points)
            Exercise Ten, Virtual Edge

Section 3
Lecture 39  The Elbow and Arm
Lecture 40  Articulations of the Distal Limb
Lecture 41  Muscles of the Forearm
Labs       Open-book assessment #12 (4 points)
            Exercise Eleven, Virtual Edge
Readings   Pages 472-477, 432-438, 475-484, 438-451

Section 4
Lecture 42  The Hand
Labs       Exercise Twelve, Virtual Edge
            There is no open-book assessment for this section.
Readings   Pages 451-464

EXAMS       Unit 4: Upper Limb Lab Exam
            Unit 4: Upper Limb Lecture Exam
            Optional Comprehensive Final
            (See p. 3 for information about taking an optional comprehensive final)
TRANSCRIPTS

Official CSU transcripts may be ordered at [www.registrar.colostate.edu](http://www.registrar.colostate.edu). Under “STUDENTS,” click on “TRANSCRIPTS.”

Be sure that your BMS 310 grade has been posted to your unofficial transcript on [RAMweb before](http://RAMweb) you order an official CSU transcript.