<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Subject</th>
<th>Reading in Laboratory Booklet</th>
<th>Points Earned in lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mon, Aug 31</td>
<td>#1: Introduction, meet the cadavers (begin with 4 cadavers on Mon. and 4 on Wed.), and autopsy video</td>
<td>3-32</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Wed, Sept 2</td>
<td></td>
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<tr>
<td>2</td>
<td>Sat, Sept 12*</td>
<td>*Because of the Monday Holiday, Monday’s students will attend on Saturday, Sept. 12, from 9:00-11:30 AM). Pre-lab quiz and # 2: Scientific terms and Axial Skeleton</td>
<td>33-41</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Wed, Sept 9</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Mon, Sept 14</td>
<td>Pre-lab quiz and #3: Appendicular Skeleton</td>
<td>42-52</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Wed, Sept 16</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Mon, Sept. 21</td>
<td>Pre-lab quiz and #4: Skin cadavers to expose and examine muscles of torso and arms (do not skin face, pelvis, or cadaver designated for multiple sagittal cuts. Do not skin anterior window cadaver) LAST DAY TO DROP W/O NOTATION IS MONDAY SEPT. 21!</td>
<td>53-67</td>
<td>10</td>
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<tr>
<td></td>
<td>Wed, Sept. 23</td>
<td></td>
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<tr>
<td>5</td>
<td>Mon, Sept 28</td>
<td>#5: Quiz #1 and continuation of projects</td>
<td>68-70</td>
<td>50</td>
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<tr>
<td></td>
<td>Wed, Sept 30</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Mon, Oct 5</td>
<td>Pre-lab quiz and #6: skin cadavers to expose and examine muscles of legs</td>
<td>71-79</td>
<td>10</td>
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<td></td>
<td>Wed, Oct 7</td>
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<tr>
<td>7</td>
<td>Mon, Oct 12</td>
<td>Pre-lab quiz and #7: Skin hands and feet to expose muscles and tendons (don’t skin hand(s) or feet that will be amputated and have a partial transverse cut)</td>
<td>80-86</td>
<td>10</td>
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<tr>
<td></td>
<td>Wed, Oct 14</td>
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<tr>
<td>8</td>
<td>Mon, Oct 19</td>
<td>Pre-lab quiz, #8: Expose articulations on one side of body, and practice suturing</td>
<td>87-94</td>
<td>10</td>
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<tr>
<td></td>
<td>Wed, Oct 21</td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Mon, Oct 26</td>
<td>Pre-lab quiz and #9: Examine circulatory and respiratory system,</td>
<td>95-99</td>
<td>10</td>
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<tr>
<td></td>
<td>Wed, Oct 28</td>
<td></td>
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<tr>
<td>10</td>
<td>Mon, Nov 2</td>
<td>Pre-lab quiz and #10: Examine digestive system and main features of nervous, reproductive, and urinary systems LAST DAY TO DROP WITH A “W” IS MONDAY, Nov. 2!</td>
<td>100-106</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Wed, Nov 4</td>
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</tbody>
</table>
|   | Mon, Nov 9  
Wed, Nov 11 | #11: Review of special projects and an open display of ALL preserved specimens and cadavers so you can see everything that was done! |
|---|---|---|
| 11 | Mon, Nov 16  
Wed, Nov 18* (*this is the last days for us of face-to-face classes!) | #12: **Quiz #2, Student Evaluations of TAs and UAs, and finishing work on special projects.** During this lab you must confirm with your TA your total points earned in lab for the pre-lab quizzes, attendance, and participation so far (85 points possible up to this point). You will also clean up the lab this week. |
|   | Mon, Nov 23* | #13: Guest Speaker on-line (*it will be broadcast live on Monday and be recorded). |
| 13 | Mon, Nov 30* | #14: Guest Speaker on-line (*it will be broadcast live on Monday and be recorded) |
| 14 | Mon, Dec 7* | #15: Guest Speaker on-line (*it will be broadcast live on Monday and be recorded) |
| 15 | Mon, Dec 14 to Wed, Dec 16 | **Comprehensive (including guest speaker information) Final Exam online via Proctorio.** |
| 16 | | --- |

*Email your TA immediately after you watch each of the guest speakers so you can earn 5 participation/attendance points. If you don’t email them by 5:00 PM Friday of each week, you won’t get the points.

**Human Dissection – Biol 4000**  
**Fall 2020, 1 credit**

**A. Teaching Assistants (TAs) and Undergraduate Aides (UAs):**

1. **TAs:**
   - To be announced
2. **Undergraduate Aides:**
   - To be announced

**B. Supervising Faculty Member:**

1. D. Andy Anderson, PhD.  
   Biology Department  
   VSB 231  
   Utah State University
C. Meeting Times:

1. This laboratory meets on Monday and Wednesday evenings from 7:00 p.m. to 9:50 p.m. in BNR 329. **Students may only be in BNR 329 when a supervising TA or Aide is present. There will be no exceptions!**

   *Note that since Monday, September 7 is a Holiday, that class will be held on Saturday, September 12, from 9:00-11:30 AM.*

D. Materials for Biol 4000:

1. Any suitable current textbook of anatomy will probably allow you to muddle through your dissections. However, I asked the USU Bookstore to order some excellent books for this class for **optional** purchase.

2. The course reader from the USU Bookstore.
   a. This booklet contains the instructions for this course, the items you need to identify, and includes some articles you are required to read.

3. Safety
   a. Lab coats will be provided in the lab
   b. Safety classes will be provided in the lab and can be disinfected with the wipes provided.
   c. You can wear your own mask to the lab and wear it throughout the lab. If you need a disposable mask for any reason, we have some in the lab.
   b. You must wear a skirt or pants that cover the entire legs and shoes that cover the entire foot! If you do not have the proper footwear, you will NOT be allowed to attend the lab.
   c. Nitrile gloves are provided for wearing in the lab and should be applied after you wash your hands in the lab and removed when you wash your hands before leaving the lab.
   d. Face shields are available for use when using the hand or electric saws. They are NOT required for other routine work on the cadavers.
   e. When using scalpels do not recap them, do not lay them down on the bag or cadaver, and talk to your partners (that is why you all wear name tags) when using them so they know where you will be cutting next. When you are done with a scalpel, dispose of them in the red sharps containers.

E. Examinations for Biol 4000:
1. There will be two lab quizzes worth 50 points each (100 points total) and a comprehensive final exam worth 100 points. Since this is a laboratory course, all of the questions will be “fill in the blank” type. All questions will come from your instructors’ brief introductions, the required videos and articles, from the guest speakers, or from the numerous structures you and your classmates discover and label. Since these quizzes are to be offered on both Monday and Wednesday evenings, there will be two different versions of the quizzes of equal difficulty. After scoring the tests, the instructors will give the quizzes to Andy, who will record the scores and post the corrected quizzes outside VSB 219.

2. Those students who score less than 70% on the first exam should seriously seek intensive tutoring with the instructors.

3. The final exam will be prepared by the TAs and will be offered on-line by Andy via Proctorio.

G. Pre-lab quiz, lab attendance, and lab participation (100 points possible, see schedule for week-by-week breakdown of points):
1. The TA of this class will keep a record of your pre-lab quiz scores (5 points for a short quiz administered at the beginning of the lab on the material to be presented the weeks where you do new work) and your points for attendance (2 points for signing the roll sheet near the end of lab) and participation (3 points for doing your work, helping your partners, and keeping the lab clean) for each of the active labs. You will also earn 5 points to listening to each of the 3 guest speakers.

2. The TA (with the help of the UAs) will determine if you are actively participating in each of the active labs (3 points) and a SIGNED roll will be taken towards the end of each active lab (2 points).

3. See the “Schedule of Laboratories” which lists how many points are possible for each lab.

H. Course Grade:

1. The letter grade is based upon the percentage of total points earned. There is no extra credit. You are welcome to see the persons who correct your exams or to see me about your exams up until my final office hour of the semester. After my last scheduled office hour, I will only discuss the final exam with you. There is no extra credit offered in this class.

<table>
<thead>
<tr>
<th>Actual points Earned</th>
<th>Percentage of total points earned</th>
<th>Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>278-300</td>
<td>93-100</td>
<td>A</td>
</tr>
<tr>
<td>269-277</td>
<td>90-92</td>
<td>A-</td>
</tr>
<tr>
<td>257-268</td>
<td>86-89</td>
<td>B+</td>
</tr>
<tr>
<td>248-256</td>
<td>83-85</td>
<td>B</td>
</tr>
<tr>
<td>239-247</td>
<td>80-82</td>
<td>B-</td>
</tr>
<tr>
<td>227-238</td>
<td>76-79</td>
<td>C+</td>
</tr>
<tr>
<td>218-226</td>
<td>73-75</td>
<td>C</td>
</tr>
<tr>
<td>209-217</td>
<td>70-72</td>
<td>C-</td>
</tr>
</tbody>
</table>
197-208 66-69 D+  
179-196 60-65 D  
178-or less 59 or less F

**I. Laboratory Goals**

1. The principal goal of this laboratory is to provide as many students as possible with a “hands on” opportunity to explore the structure of the human body. I expect that students who enroll in this course already have a background in human anatomy from taking my Biol 2320 course or an equivalent class.

2. The secondary goal (which is why there are so many points for attendance and participation) is to generate eight well-exposed cadavers for use in Biol 2320 in spring and summer semesters. This means that other students will be examining your work, not only this semester, but for months to come. Expose and label. Don’t chop off and destroy!

3. It is expected that upon successful completion of this laboratory, the students will be able to apply their greater understanding of anatomy in more advanced courses, or in their careers.

4. As you noted above, attendance and participation is mandatory if you hope to earn the points possible for each active lab!

**I. Student’s Responsibilities:**

1. Since we have only 9 active laboratory meetings (following the two scheduled lab quizzes you will also continue your projects on the cadavers), each student is expected to attend every laboratory (the lab room will typically be open by 6:30 PM and will stay open if any students would like, until 9:50 PM). To optimize this limited laboratory time, each student is expected to come prepared for the planned dissections (hence the pre-lab quizzes at the start of the labs with new information!). The TAs and Aides of this laboratory will be most pleased if each student in this laboratory scores over 90% on each exam and attends and participates in every lab.

2. In the event there is some difficulty, it is the student’s responsibility to contact the instructors or supervising faculty member for advice or assistance. Free tutoring is provided by the TAs and Aides immediately before each laboratory begins (typically 6:30 PM) or at times the instructors specify.

3. Students are also expected to assist in the cleaning of whatever laboratory they are located in (this is part of your participation points).

**J. Teaching Assistants’ and Undergraduate Aides’ Responsibilities:**

1. Based upon previous experiences in this class, students prefer guided laboratories with an opportunity to perform “special projects”. They also like the enrollment to be limited so those admitted have ample opportunity to perform their own work in an un rushed manner. That is what we will do this semester.

2. I don’t expect your TAs and Aides to know or identify everything you find. That is your job as much as theirs. I do expect your TAs and Aides to consult references, or
3. The TAs and Aides should limit most introductions or instructions to 20 minutes or less.

4. The TAs and Aides are expected to prepare examinations which are fair and representative of the structures discussed in their introductions, or items discovered and labeled by you. The TAs and Aides will correct the two scheduled lab quizzes promptly and give the scored 50 point quizzes to Andy for tabulation and posting outside VSB 219.

5. The TAs will provide me with a complete list of points earned for the pre-lab quizzes, classroom attendance, and participation at the end of the semester (100 points total possible).

6. The TAs and Aides are required to be available in the lab 30 minutes before the beginning of the laboratory to provide assistance to any students who require it. The TAs and Aides are expected to stay until 9:50 PM if any students desire to continue their work until that time. The TAs and Aides must insure that no students are allowed in the lab unless a TA or Aide is present. There will be no exceptions!

K. Responsibilities of Supervising Faculty Member:

1. I will be available at posted office hours during the day and to meet with the TAs and Aides as needed to insure all supplies are available and to solve any problems. I will also occasionally visit during Monday and Wednesday evenings to provide assistance as needed. I do not consider myself to be the instructor of this class (I just plan on visiting). Your TAs and UAs will jointly fill that role.

L. Below you will find a University statement on Academic Honesty.

1. DO NOT REMOVE ANY EXAMINATION MATERIALS FROM THE LABORATORY ON EXAM DAYS!

2. DO NOT COPY OR REMOVE ANY EXAMINATION MATERIAL FROM THE TAS’ OR AIDES’ OFFICES!

3. If you fail to follow these rules, I will make every effort to subject the offender to the disciplinary procedures designated by the University:

Honor Pledge
Students will be held accountable to the Honor Pledge which they have agreed to: “I pledge, on my honor, to conduct myself with the foremost level of academic integrity.”

Academic Dishonesty
The Instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University’s Student Code:

Acts of academic dishonesty include but are not limited to:

1. Cheating: (1) using or attempting to use or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity, including working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done “individually”; (2)
depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (3) substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work; (4) acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission; (5) continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity; (6) submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or (7) engaging in any form of research fraud.

2. Falsification: altering or fabricating any information or citation in an academic exercise or activity.

3. Plagiarism: representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

Full text of the Student Code available at http://www.usu.edu/studentservices/pdf/StudentCode.pdf:

M. Students with Disabilities

1. Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

N. University Policy on Withdrawals and Incomplete Grades.

1. I direct your attention to the current USU policy on withdrawing from courses in the USU Catalog.

2. You will note that “incomplete grades” are only given for conditions beyond the students’ control and not due to poor performance. A student who receives an incomplete must retain all the scores they earned up to the date of the incomplete and later will ONLY be allowed to finish the remaining quizzes or exams.

O. Notice on Lab Fees (approximately $220)

1. As part of your registration for this class you were required to pay a "lab fee". This fee is used by me to buy lab supplies (including the cadavers), obtain specimens, and purchase learning materials. All of your lab fees are used to enhance your learning opportunities in this course and to help your TAs, Aides, and your instructor, to hopefully make it easier for you to succeed in this challenging subject.
P. Laboratory Safety

1. After death bodies will begin to decompose. Bacteria, mold and fungi can begin to grow on tissue. In order to slow down these events, bodies are treated in a process called “embalming.” Embalming involves injecting specific fluids into the arteries (often the carotid artery) where they will spread through the arteries, capillaries and veins to the organs and tissues of the body, aiding in preservation. The primary embalming chemical is formaldehyde. Formaldehyde functions by cross-linking proteins. It is toxic and a known carcinogen, meaning there is evidence that exposure to this chemical can increase susceptibility to cancer. Cadavers arrive at our lab with formaldehyde perfused within the cadaver. While in our lab, cadavers will be regularly doused with a wetting solution. Wetting solutions can contain toxic chemicals meant to inhibit microbial growth on the cadavers. Cadavers are placed on specially designed tables with built in ventilation that vacuums away fumes and odors, thus minimizing exposure. Besides specialized venting, exposure to toxic chemicals in the laboratory is minimized by the use of protective clothing.

2. The following use of personal protective gear is expected of anyone entering the laboratory:
   - Nitrile gloves (provided in the lab), which prevent toxic chemicals from reaching your skin when working with the cadavers
   - ¾ length lab coat (below the knees) provided in lab, skirt or pants that cover the entire legs, and shoes that cover the entire foot. Disposable masks that will be in the hallways and put on before entering the lab* (if there is a shortage of such masks, you will be asked by your TAs to arrive wearing a mask of your own).
   - Safety classes, which will be provided in the lab. These can be disinfected before use with the wipes provided.
   - All gloves must be placed in waste containers upon removal.
   - Wash your hands as you enter the lab and before you leave the laboratory with the soap and water provided in the lab.

3. If for any reason you feel hot or faint, it is important to tell someone and sit down on the floor (or lie down) immediately! If instead you try to walk out of the lab you risk passing out and suffering a bad fall onto a hard floor!

4. Although data is inconclusive, exposure to the chemicals while participating in the lab (more so if one is participating in active dissections) may be harmful to a developing fetus. Therefore, it is advisable to pregnant women (especially in the first trimester) or those who plan on becoming pregnant during the semester to consider this issue when determining the timing of taking the class. If the course must be taken at this time, please discuss options with the Instructor. If there are concerns regarding this issue that the Instructor cannot answer, please contact Rachel Curry in USU’s Environmental Health and Safety Office (435-797-2892, rachel.curry@usu.edu), or seek advice from your obstetrician.
General Information for Interested Students
Biol 4000

Some students may be interested in taking further courses with me. This sheet will provide that information.

A. Courses Taught by D. Andy Anderson

1. Fall Semester 2020
   a. Elementary Microbiology (Biol 2060) 4 credits
   c. Human Dissection (Biol 4000) 1 credit

2. Spring Semester 2021
   a. Human Anatomy (Biol 2320) 4 credits
   b. Bioethics (Biol 3100) 3 credits
   c. Advanced Human Physiology (Biol 4600) 5 credits

3. Others
   a. Independent Study (Biol 3760) 1-2 credits – available every semester
      1) Students earn 1-2 credits from Andy by writing one or more term papers on a mutually agreed topic.
   b. Teaching Internship (Biol 4710) 1 credit – available every semester
      1) This credit is available to students who wish to volunteer as an undergraduate aide in a class they have previously excelled in.
   c. I oversee a Medical College Admissions Test (MCAT) review course (Biol 1030: MCAT Preparation), one credit, pass-fail) that is offered in the spring.