Lab Exam and Other Requirement-

**Lab Manual: Exploring Physiology and Anatomy** by Erin C Amerman

Complete each lab assignment aligned with the syllabus on time

The lab quiz is aligned with the lecture material in your textbook

Write down the answers in the classroom. If you do not write, don’t expect me to give you the answers personally. In that case, ask your neighbor to help you.

Some lab chapters require experiments, dissections, model studies, definitions, diagrams, exploring clinical disorders. Overall, the textbook and lab manual helps you to understand the Human Anatomy and Physiology concepts clearly. I am giving you some important selections of lab exam material. This is not a promise and it is not only some of the exam material. You need to download “Identification Key to Labeled Structures” and other models key on the website. They will be used in the lab exam.

The syllabuses for lab and lecture exams are for you. You should know the dates and be prepared. Until there are some serious matters, the dates are fixed. If there is any change, I will announce it in the class.

Follow Honor Code. Cheating is not tolerated in the classroom.

**KEY TERMS IN THE LAB MANUAL** - a must to be used in the lab quiz (will be provided in the lab). Need to write-

Do not use any electronic devices to take a picture.

**Figures**: selected figures will be used in the lab quiz

**Microscopy (slides)** - a must to do in the lab

**Fetal Pig, Heart, Brain, Kidney, and eye dissection** - a must to do in the lab

**In class experiments**: must be completed in the lab

**Most of the diagrams and other related material** must be completed outside the lab.
<table>
<thead>
<tr>
<th><strong>BIO-141</strong></th>
<th><strong>BIO-142</strong></th>
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<tbody>
<tr>
<td><strong>First Quiz</strong></td>
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</tbody>
</table>
| **Anatomy and Chemistry**  
Table 1.1- key terms- Directional Terms & Others  
Table 1.2- Organ System  
Exercise 3- Regional term – Diagrams a must for lab quiz - Figure 1.3/1.4  
Table 1.3- Body Cavities and Regions of the Abdominopelvic Cavity  
**Fetal Pig Dissection**- Handout (website)  
Table- 1.5 (Model)  
Table 1.6- Organs and organ system- boxes  
Figure 1.11- Procedure- Organ Systems- must in lab quiz  
Table 2.1- Key terms- Chemistry | **Nerves**  
Table 12.1- Key terms- Neuron  
Pre-lab Exercise 2- Nervous tissue microanatomy  
Figure 12.1,12.2 12.3, 12.4, 12.6 & 12.7- Multipolar Neuron  
(12.3 and 12.4 is important to know it for lab quiz)  
Neuron Model  
**Exercise 2- Nervous Tissue Physiology- Time to Tracing- excellent way to learn the physiological response pathways- will be used in exam** |
| **Second Quiz** | **Second Quiz** |
| **Microscope, Cells, Tissues, and Skin**  
Learn how to use microscope- Need to know  
Table 4.1- Key terms- Cell structure and organelle  
Table 4.2- Stages of Mitosis  
Pre Lab Exercise- Key Terms- Tissues  
Figure 4.3- Important  
Figure 4.4- The Cell or Cell Model (Handout)  
**Figure 5.1- Epithelial Tissues**  
**Figure 5.2- Connective Tissues**  
**Figure 5.3- Muscle Tissues**  
**Figure 5.4- Nervous Tissues**  
**Figure 5.5- Unknown**  
The above underlined Figures- complete the microscopy by identifying under microscope- a must lab activity- also will be used in the lab quiz  
Table 5.3- Organ and their component tissue  
Table 6.1- Key terms- Epidermal and other structures  
Figure 6.3- Skin Section  
Tissue- All histology slides-tissue exercise (identify some selected tissue slides under microscope) | **Brain and Spinal Cord**  
Table 13.1- Key terms- Brain and Spinal Cord Structure  
Figure- 13.7, 13.9, 13.12, 13.13, 13.14, 13.15, 13.16, & 13.17  
Table 14.1- Key terms- General Terms- ANS  
Table 14.2- The Cranial Nerves and Figure 14.2  
Figure 14.3- PNS and ANS and the figure 14.3 14.4- Sympathetic and Parasympathetic NS  
Figure 14.5- Brain with Cranial Nerves  
Figure 14.7- The Nerve Plexuses |
| **Third Quiz** | **Third Quiz** |
| **Bones and Joints**  
Table 7.1- Key terms- Bones  
Figure 7.3- Compact Bone  
Figure 7.6- A Long Bone  
Table 8.1- Key terms- whole skeleton  
Figure 8.1, 8.2, 8.3- Color them  
**Figure 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, and 8.15- will be used to identify bones during exams**  
Work also on label the bones  
Exercise 2- Cranium  
Exercise 3- Axial skeleton  
Exercise 4- Appendicular skeleton | **General and Special Senses**  
Table 15.1- Key terms- Eye/ear/taste/smell  
Exercise1- Anatomy of the Eye- Dissection of the eye  
Figure 5- External Feature- Eye  
Figure 6- Muscles  
Figure 15.7- Eye Ball  
Figure 15.8, 15.9, and 15.10- Dissection and Diagrams  
Figure 15.11- Anatomy Ear  
Figure 15.12- Nasal and Olfactory Epithelium  
Figure 15.14- Label the eye and or model of the eye |
### Fourth Quiz

**Skeletal Muscles**
- Table 10.1 - Key terms - Skeletal Muscle Structure
  - Exercise 1 - Skeletal muscle anatomy
  - Exercise 2 - Neuromuscular junction
  - Exercise 3 - Muscle physiology
- Table 11.1 - Key Terms
  - Pre-Lab Exercise 2 - Please color the muscle
  - Table 11.2 - Muscle origin, insertion, and action
  - **Exercise 1 - Skeletal Muscle - Model inventory - Muscle handout on the website (naming the muscle) will be in the quiz-a must**
  - Time to Trace
  - Selected muscle identification - model

**Digestive and Endocrine**
- Table 25.1 - Key Terms - Digestive System Structure
  - Pre-Lab Exercise 2 - Anatomy of Digestive System Label and color - Models - Diagrams
  - Table 25.2 - Digestive Enzymes - must complete
  - Exercise 1 and 2 - Please complete
  - Exercise 4 - Time to Trace
  - Check your recall - complete
  - **Endocrine**
  - Pre-Lab exercise 1 - Key terms - Organs
  - Pre-Lab Exercise 2 - label and color - Please complete
  - Table 26.2 - Properties of Hormones
  - Exercises - Please study
  - Time to Trace - Egg/French Fry/Cookie
  - Time to Trace - Exercise 3

**Fifth Quiz**

**Blood, Blood Vessels, Heart**
- Table 16.1 - Key Terms - Layers of heart Wall and Others
  - Pre-Lab Exercise 2 - Color the activities
  - Exercise 1 - Anatomy of the Heart - Model Inventory - along with diagrams
  - Procedure - Tracing Through The Heart - Color
  - Procedure - Tracing the Electrical Events of the Heart
  - Table 16.2 - Model Handout on the website
  - Unit 16 - Review
  - Table 17.1 - Key terms - Arteries and Veins (probably I will ask you to study the arteries in detail) - exercise 1 - major arteries in the body
  - Pre-Lab Exercise 3 & 4 - Label
  - Procedure - Tracing the Blood Flows Patterns Figure 17.1 and or 17.16 - Arteries
  - Figure 17.4 and or 17.18 - Major Veins of the Body
  - Table 18.1 - Key terms
  - Table 19.1 - Key Terms - Blood
  - Need to do all the physiological exercises in this unit.

**Urinary**
- Table 23.1 - Key Terms - Gross Structure of Kidney
  - Pre-Lab Exercise 2 & 3 - Label and color to learn
  - Exercise 1 - and Procedure - Urinary System Anatomy - Diagram’s and Models inventory - Kidney and nephron structure
  - Kidney Dissection
  - Check your recall - Labels
  - Table 24.1 - Key term - Urinary Physiology
  - Pre-Lab Exercises - Please complete it.
  - Table 24.2 - Urinalysis - perform in the lab
  - Exercise 3 - Time to trace - RBC/Glucose/Urea

**Respiratory System**
- Table 21.1 - Key Terms - Respiratory System
  - Exercise 1 - Diagrams respiratory system - Model

**Reproductive**
- Pre-Lab Exercise 1 - Key terms - Male and Female
- Reproductive System
<table>
<thead>
<tr>
<th>Inventory- handout on the website</th>
<th>Pre- Lab Exercise 2- Male and Female Reproductive Anatomy Diagrams</th>
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<tbody>
<tr>
<td>Exercise 2- Histology of the Respiratory Tract</td>
<td>Table 22.1- Male and Female Anatomy</td>
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<tr>
<td>Table 22.1- Key terms- Basic Respiratory process</td>
<td>Diagrams and models will be in the exam</td>
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<tr>
<td>Pre lab exercise 2-Respiratory System Anatomy-(color it)</td>
<td>Chapter 28</td>
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<tr>
<td>Exercise 3- Lung Inflation and label</td>
<td>Pre-Lab Exercise 1-Key Terms</td>
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<td>Pre-Lab Exercise 3- respiratory volumes and capacities</td>
<td>Time to Trace- Exercise 1- Fertilization and Implantation</td>
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<td>Exercise 2- Measuring the Pulmonary Volumes and Capacities</td>
<td>Table 28.1- Key terms- Development</td>
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<td>Tracing the pathway-</td>
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**IMPORTANT INFORMATION TO THE STUDENTS:**

The above Lab study Guide is only a guide. There is no guarantee about this guide to be used 100% in the test. Sometime in some diagrams, the orientation, labels, and markings will differ slightly, but the whole diagram structure will remain identical. Normally, labels are placed at particular structure or components. That is the reason, during lecture, I go through diagrams so that instead of memorization, you learn the location, name, and functionality about the system organs, cells, tissues and to be able to identify accurately.

Please pay close attention to the diagrams and labels during lecture and lab sessions and this applies to textbook diagrams, lab manual diagrams, torso, models, dissections handouts, and any related handouts that is given in the class.

If there is any subtle difference in any way the diagram that is not listed above or labels are differently placed, or diagram orientation is different and it shows up in the exams, still you are liable to answer those diagrams. **Please refrain from any kind of discussion and questions regarding the particular diagram why it is different.** I have mentioned the rules that will apply to BIO 141 and BIO 142 students. We can use the time more efficiently in learning during lecture/lab class discussions.

**You do not need any scantron in the lab exams.**

**THE REQUIRED MOVIES (Watch and Write Summaries- Mandatory to receive 30 points)**

**BIO 141 and BIO 142 Movies Format:**

**Movies should be submitted on time:**

**BIO 142- as mentioned in syllabus**

Only Hard Copies will be honored. Place the hard copies in the first half hour of the class.

Please submit only hand written movie summaries. Also attach the note taking pages during viewing movies. Place a cover page with your name, class, and the movie topics. The movie summary should be two pages each. Check the submission deadline in the syllabus.