Course Description
Biology 111X, together with its companion course, Biology 112X, will provide you with a basic understanding of the structure and function of the human body. You can build on this foundation by taking additional undergraduate courses, by pursuing graduate or professional studies, and by reading scientific literature. This course is required for students entering the AAS nursing program at UAA/UAF, the BS nursing program at UAA, the dental hygiene program at UAA or UAF, and the radiologic technology programs at UAA/UAF. There are many other allied health programs that will require a 2-semester human A&P course, such as physical therapy, occupational therapy, physician’s assistant and medical technology. This course is not required by medical schools, but recommended by some. This course meets a core curriculum requirement at UAF.

Prerequisites
There are no formal science prerequisites for this course. However, because of the complexity and depth of the material, it is suggested that you have successfully completed high school biology, chemistry and algebra within the past 5 years, and that you have been placed in English 111X. If you meet these criteria, come to class regularly, and are willing to commit to regular, quality study time, you should succeed in the course.

Professor
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Teaching Assistants
1. Jessica St. Laurent  jstlaurent@alaska.edu  
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**Required Text Bundle**

**Human Anatomy and Physiology 9th edition**
By Elaine Marieb and Katja Hoehn, published by Pearson

**Human Anatomy and Physiology Laboratory Manual 10th edition (Cat Version)**
Practice Anatomy Lab (PAL 3.0) DVD
By Elaine Marieb and Susan Mitchell, published by Pearson

**Course Objectives**

The primary objective of this course is for you to gain a solid understanding of basic human anatomy and physiology of the systems covered in Biology 111. It is also my expectation that you will be prepared to apply the concepts you master in Bio 111 to the rest of the body systems which will be covered in Bio 112. Following successful completion of both Bio 111 and 112, you should have a good understanding and greater appreciation of basic human anatomy and physiology and the interrelationships of all of the body systems, and understand common clinical applications within each of the systems. In addition this course should facilitate your understanding of the scientific process. It is also my hope that you will enhance your ability to learn this type of science and develop more efficient study skills to ensure your success in future science courses.

**By the end of the semester you should be able to:**

1. Explain how anatomy and physiology are related.
2. Understand that homeostasis is a driving principle in all physiological processes, and provide examples to support your understanding.
3. Understand that chemistry and biochemistry underlie all physiological processes.
4. Describe the basic organization of matter, the process of forming chemical bonds, and the demonstrate a basic understanding of chemical reactions.
5. Describe the importance of enzymes.
6. Describe cell theory.
7. Describe the basic structure and function of cells and their component parts.
8. Describe the structure and function of the integumentary system.
9. Describe the structure and function of the skeletal system.
10. Describe the structure and function of the muscular system.
11. Describe the structure and function of the nervous and sensory systems.

**Attendance**

**Lecture**

While class attendance is generally not required for the lecture portion of the course (unless stated in the syllabus, or announced at least one class period previous to the required attendance day), students are fully responsible for all information given during a lecture period. This includes all announcements. For example: if it is announced in lecture that a quiz will be given during the next lecture class, all students are expected to come prepared for the quiz. Any student not taking the quiz will receive a zero for that quiz. Therefore, you are advised to establish a contact person in the class from whom you may get information in the event you must miss a class. It is expected that students will not miss any class sessions except for emergencies. Successful students attend lecture regularly.

**Lab**

Attendance in lab is mandatory. Missing the hands-on learning experiences offered in a lab setting, can generally not be made up. Ten points will be deducted from your total lab points for each missed lab. You must attend the lab section for which you are registered, however in the event of an emergency, and
with permission of both TAs involved, you may arrange to have one missed lab, due to an unavoidable emergency made up during another lab section.

**Grading Policy**

Apportionment for final grade for Biology 111X:

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<thead>
<tr>
<th></th>
<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>Tests #1-3</td>
<td>100 points each</td>
<td>50-75 points each</td>
</tr>
<tr>
<td>Test #4</td>
<td>70 points</td>
<td>70 points</td>
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<tr>
<td>Final exam</td>
<td>100 points</td>
<td>100 points</td>
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<tr>
<td>Misc quizzes/assignments</td>
<td>20-40 points</td>
<td>20-40 points</td>
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Total lecture points possible: 490-510 points

**Lab**

There will be 3 lab exams worth 50-75 points each. In addition, there will be lab quizzes worth from 10-15 points each up to a total of 40 points. Details regarding lab exams, quizzes, expectations in lab and most importantly lab safety will be provided by your teaching assistants.

Total lab points possible: 200-240 points

Grading Scale:

95-100% = A+, 90-94%=A, 89%=A-, 87-88% = B+, 80-86%=B, 79%=B-, 77-78% = C+, 70-76%=C, 69%=C-, 60-68% =D, <60% = F

I do not curve grades, offer or accept extra-credit assignments. Some extra credit questions may be built into exams.

**Test Format**

Lecture exams 1-4 may contain any or all of the following types of questions: fill-in the blank, short answer, drawing and labeling, labeling and/or identification of drawings, matching, multiple choice. The final exam is comprehensive for the Bio 111X course and will consist of 100 multiple-choice questions. Lab exams will include both written and practical questions.

Your ability to communicate concepts clearly in writing is essential for your success in this course. This includes spelling terms correctly.

There are NO make-ups for missed tests unless a VALID excuse is discussed with the instructor PRIOR to the test. In the event of an emergency, please either email or call me before the time class begins so that you may be able to petition to take a make-up exam. Make-up exams are not the same as the exams given in class, and are likely to contain more essay questions than the class exam.

*Note Regarding Lab Safety*

Laboratory safety is our primary concern. Please listen closely to, and follow, the safety instructions given to you by your lab instructor. You are responsible for reading, studying, and adhering to all safety rules and guidelines as they pertain to the Anatomy and Physiology Laboratory.

**Academic Honesty**

While learning is a collaborative effort, testing is not. **Cheating in any way will not be tolerated.** I expect the work on your exams and quizzes to be yours alone and to be done without aids. Cell phones on during exams is considered cheating. Caps not allowed during exams. **Allowing others to view your work is considered cheating.** In adherence with the University’s Academic Honor Code, if you cheat on an exam, or represent someone else’s work as your own, you will receive a grade of 0 for that assignment. If you violate the honor code a second time, you will receive a failing grade for the course and may be referred to the University Disciplinary and Honor Code Committee for further action. Please review the honor code stated in the UAF Catalog.
**Disability Services**
Reasonable accommodations will be made for students with documented disabilities. If you have questions, please contact Disability Services in the Center for Health and Counseling (474-7043). Services are free of charge.

**Class Etiquette**
- Be respectful of your fellow students. If you have comments or questions, please raise your hand.
- Please arrive on time and with the necessary supplies. If you must arrive late, please arrive quietly and sit toward the back or in an area which will be least distractive. It is advisable to arrive 7-10 minutes early on days in which a lecture exam or quiz will be given. If you arrive late and miss needed time to complete a test or quiz you will not be given extra time to complete it.
- Stay for the entire class.
- If you are asked to leave class for whatever reason, I will not discuss it with you until class is dismissed, so you are expected to leave quickly and quietly.
- Take your bathroom breaks between class, not during class (unless it’s a real emergency!).
- Do not bring children, friends or relatives to class unless you have checked with me ahead of time. **Visitors, including children, are not allowed in lab at any time.**
- Absolutely no cell phones and pagers in class or lab (EMT, Fire Dept. on duty excepted—please clear with instructor during the first week, and set receiver to vibrate mode). Phones on during tests is considered cheating.

**A Few Study Tips**
1. Read each chapter in the text before it is covered in lecture. Pay particular attention to the diagrams, charts, graphs and tables, photos, and clinical applications of the material covered in the text. While you may not understand or retain everything you read, having become familiar with the concepts we will be covering in class will help you understand lectures much better.

2. **Take notes during lecture.** Do not try to write down everything said, word for word. Rather, outline general concepts and **draw and label by hand** any diagrams drawn for you by the instructor.

3. As soon after lecture as possible, go back to the textbook and clarify the concepts covered during lecture.

4. Study the material daily. Try to stay one step ahead of the syllabus. Since one concept builds on another in this course, you most definitely don’t want to fall behind!

5. **Establish study groups and/or find yourself a study partner. Study together as well as by yourself. Speak the “A&P” language out loud together. Create short written tests for yourself and your study partners.**

6. Ask questions if you don’t understand something.

7. Use the supplements accompanying your text. You should know by the end of the second week of classes which supplement is going to be most helpful for you. Everyone’s learning style is a little different, so what works well for one student may not work well for another. Make an effort during the first part of the course to discover how you best learn this material.

8. Find time to have fun! Having some genuine “fun time/relax time/ mindless energy time” will make your actual study time more productive.

**Outside Help is Available**
It is my goal to help you be successful in learning this material. If you need extra help outside of class and your study-groups, please email to make an appointment with me, or your lab instructor. I especially encourage you to bring your pre-established questions to my office in small groups. I have found this to be a very efficient use of your time and of my time. There are also occasional opportunities to clarify lecture concepts during part of the laboratory time.
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<thead>
<tr>
<th>Wk. Dates</th>
<th>Unit</th>
<th>Chapter</th>
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<tr>
<td>8/31</td>
<td>1</td>
<td>1</td>
<td>The Human Body: An Orientation</td>
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<tr>
<td>9/5-9/7</td>
<td>1</td>
<td>2</td>
<td>Chemistry comes alive</td>
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<td>9/10-9/14</td>
<td>1</td>
<td>3</td>
<td>Cells: The Living Units</td>
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<td>4</td>
<td>Tissues: The Living Fabric</td>
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<tr>
<td>9/17-9/19</td>
<td>2</td>
<td>5</td>
<td>The Integumentary System</td>
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<tr>
<td>9/21</td>
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<td>TEST #1</td>
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<td>9/24-9/28</td>
<td>2</td>
<td>6</td>
<td>Bones and Skeletal Tissues</td>
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<td>7</td>
<td>The Skeleton (Names of bones and bone markings are primarily covered in lab.)</td>
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<tr>
<td>10/1-10/5</td>
<td>2</td>
<td>8</td>
<td>Joints</td>
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<td></td>
<td>9</td>
<td>Muscles and Muscle Tissue</td>
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<tr>
<td>10/8-10/12</td>
<td>2</td>
<td>9</td>
<td>Muscle Tissue (continued)</td>
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<tr>
<td>10/15-10/19</td>
<td>3</td>
<td>10</td>
<td>The Muscular System</td>
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<tr>
<td>10/22/10/26</td>
<td>3</td>
<td>11</td>
<td>TEST #2</td>
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<tr>
<td>10/29-11/2</td>
<td>3</td>
<td>11</td>
<td>Fundamentals of the Nervous System and Nervous Tissue</td>
</tr>
<tr>
<td>11/5-11/9</td>
<td>3</td>
<td>12</td>
<td>The Central Nervous System</td>
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<tr>
<td>11/12-11/16</td>
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<td>13</td>
<td>The Peripheral Nervous System and Reflex Activity</td>
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<tr>
<td>11/19</td>
<td>3</td>
<td>14</td>
<td>TEST #3</td>
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<td></td>
<td>The Autonomic Nervous System</td>
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<td>Take-home worksheet will be handed out on 11/21 and is due on Monday, December 26th at 1:00 PM.</td>
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<tr>
<td>11/28-11/30</td>
<td>3</td>
<td>14</td>
<td>ANS Continued</td>
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<td>15</td>
<td>The Special Senses</td>
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<tr>
<td>12/3-12/5</td>
<td>3</td>
<td>15</td>
<td>The Special Senses</td>
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<td>16</td>
<td>The Endocrine System (this system is embedded throughout Biology 111 and 112, covered within each unit and summarized at the end of Biology 112)</td>
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<td>12/7</td>
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<td>TEST #4</td>
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<td>12/10</td>
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<td>Review for Final Exam</td>
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<tr>
<td>12/12</td>
<td></td>
<td></td>
<td>FINAL EXAM-Wednesday, December 12th, 1:00-3:00 PM</td>
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* Lecture schedule subject to minor changes as needed.
<table>
<thead>
<tr>
<th>Dates</th>
<th>Exercise/Activity</th>
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| 9/10, 9/11 | **Lab Safety!** Read inside front cover of lab manual and write down any additional instructions given by your TAs.  
1. The Language of Anatomy  
2. Organ Systems Overview  
3. The Microscope  
4. Cell Anatomy and Division |
| 9/17, 9/18 | 5. The Cell: Transport Mechanisms and Cell Permeability  
6. Classification of Tissues  
**Tissues assigned and tissue drawing requirement explained**  
7. The Integumentary System  
8. Classification of Covering and Lining Membranes |
| 9/24, 9/25 | 30 minute activity to learn basic bones  
**Assignment of Bones and Bone Markings**  
9. **Overview of the Skeleton: Classification and Structure of Bones and Cartilage**  
10. **Axial Skeleton**  
11. **The Appendicular Skeleton**  
12. The Fetal Skeleton |
| 10/1, 10/2 | 6. Tissues and Bone Markings Continued  
13. Articulations and Movement |
| 10/8, 10/9 | **Lab Practical Exam #1-Histology**  
**Tissue Drawings, worth 22 points, Due (at the beginning of lab) Please add 22 points for the tissue drawings to the total lab points stated in your syllabus.**  
Bone Markings Continued (following histology practical) |
| 10/15, 10/16 | Bone Markings Continued |
| 10/22, 10/23 | Bone Markings Continued  
Mock Practical Exam |
| 10/29, 10/30 | **Lab Practical Exam #2-Bones and Bone Markings**  
14. Microscopic Anatomy and Organization of Skeletal Muscle |
| 11/5, 11/6 | 15. Gross Anatomy of the Muscular System  
**Assignment of Cat and Human Muscles**  
16.  Skeletal Muscle Physiology: Frogs and Human Subjects |
11/12, 11/13  Muscle Identification Continued
          17. Histology of Nervous Tissue
          18. Neurophysiology of Nerve Impulses

11/19, 11/20  Muscle Identification Continued
          19. Gross Anatomy of the Brain and Cranial Nerves
          20. Electroencephalography (read only)

11/26, 11/27  Review for lab exam #3:
          Muscle Identification
          Sheep Brain Structures
          Selected Nervous and Sensory Function Tests Previously Covered

12/3, 12/4  Lab Practical Exam #3 (muscles, sheep brain structures, reflexes and other activities since lab practical #2)

Notes:

1. Lab attendance is mandatory. 10 points deducted for each missed lab-no make-up of unexcused lab misses. Each lab attendance is worth 2 points. The 2 attendance points will not be awarded if the student does not wear lab coat.

2. Safety in lab is more important than anything else that happens in lab! A student failing to follow safety guidelines may be asked by the TAs or the Professor to leave lab. 10 points will be deducted for that lab. If a student is required to leave lab a second time for failing to follow safety guidelines, 0 points will be given for the lab portion of the course.

3. No visitors allowed in lab at any time. This includes children and babies.

4. Please do not bring in outside specimens without the consent of your TAs and/or Professor.

5. Be patient and respectful of others while in lab. While lab activities are generally highly interactive, please be quiet when TAs are explaining concepts to the entire class.

6. As in lecture, cheating in any way is not allowed in lab. The rules are stated in your course syllabus.

7. Show respect toward lab specimens and handle all equipment carefully.

8. Dates, Concepts and activities above, in bold print, should be focused on most carefully.

Enjoy lab! It will bring parts of lecture to life! It is also your opportunity to interact closely with fellow students and TAs! Participate in all lab activities as fully as possible!

* Lab schedule subject to minor changes as need arises.