Instructor Information
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Office Hours: TR 9:30-11AM and 12:30-2PM; also by appointment (See Blackboard or my office door for my full schedule)

OVERVIEW and LEARNING OUTCOMES:
Welcome to Human Anatomy and your first “mega” syllabus! It is chock full of valuable information, so please to take the time to read it thoroughly. This is a science course about the study of the structure of cells, tissues, organs, and organ systems of the human body (see schedule). It serves a variety of academic majors (6 to be precise) and I will do my best to accommodate special interest topics in each discipline. While the specifics of content will vary depending on the needs of the participants, we will be aiming at the following goals to help prepare you for a career in your field.

A successful student in human anatomy should be able to achieve the following course and state core related learning outcomes:

– locate, identify, and functionally describe the structures of the human body at all levels of organization (i.e. recall content) = CT1, EQS1, EQS2 – Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
– determine/visualize the physical relationships of structures to one another at all levels of organization (i.e. comprehend the material). CS1 – Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
– collect and apply anatomical information to evaluate relevant clinical scenarios/problems (i.e. apply information you have learned). EQS1 – Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
– work effectively with others to support and accomplish a shared goal = CS1, TW2 – Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
– connect what she/he is learning to her/his own field (i.e. to make anatomy relevant to your own academic endeavors). Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports

CLASS PREPARATION:
In lecture I will clarify many, but not all of the concepts you are required to know. Therefore, much of you learning (~75%) will occur outside of the formal class meetings. Educational research tells me that learning outside of class is more effective than learning that occurs in class. Therefore, to achieve these goals and maximize your learning, it is vital you attend class and come prepared. This means studying the assigned materials, completing coloring-book plates or other assignments, reading any on-line notes that will be posted throughout the semester, and completing any lab activities before lab. Anatomy is not conceptually difficult, but like any science course the amount of material and unfamiliar terminology can make it seem unwieldy.
This means it is largely your responsibility to learn the material presented, read or reference the text for clarification, and complete the assignments on your own. This requires you to possess a positive attitude toward learning and a serious commitment to studying outside of class every day, especially within 24 hours of class or lab. It also means participating in activities vital to the concept being taught that day to enhance the teaching of a particular subject. In other words don’t expect to learn anatomy just by sitting and listening in lecture. While this will enhance your learning, you must take an active role in your own learning by practicing anatomy every day. As a member of the class you are also:

- expected to attend and be prepared for all lecture and lab meetings.
- required to follow all directions/instructions both written and spoken.
- invited to ask questions (at the proper time of course), no matter how naive they seem to you. There are probably at least two other folks who have the same question. The only stupid question is one that isn’t thought out carefully before being asked.
- encouraged to ask for help and/or clarification. Don’t suffer in silence. I can’t help you learn if I don’t know you’re confused or if my instructions are unclear.
- strongly encouraged to use Anatomy Study Strategies (see below at the end of this syllabus) which has extensive anatomy resources and study tips. If you are unfamiliar with how to study for a memory intensive course like anatomy, it’s definitely worth your time to take a look.

**WHAT YOU NEED TO STUDY:**
Simply stated, these are the things you need to work on EVERYDAY. Start by organizing all your materials and making a study plan. Then implement and stick to it. See me if you need help.

**For Lecture:**
- Required access to Blackboard for announcements, scores or grades, and other course materials
- Posted lecture notes and activities via Top Hat
- Hand written or typed lecture notes that YOU take from Power Point presentations, along with various other lecture activities (notes, clinical applications, & activities we actually do in class)
- Cell phones, tablets OR laptops are a requirement in lecture. These will be required ONLY with the Top Hat Response System (or for typing your notes). Absolutely NO cell phone or tablet CAMERAS are allowed during lecture. If you are found to be using a camera to video or take photos, after an initial warning, you will be asked to leave lecture immediately.
- Online lecture notes on Top Hat (these are notes or materials that we will not have time to cover in lecture, but you are still responsible for on exams (these will be announced or assigned well in advance of an exam)
- Coloring Book Plates (see lecture syllabus schedule)
- Exam Discussion Questions on Top Hat

**For Lab:**
- Complete the ASU.BioSafety: BioSafety Training course on Blackboard
- Lab Summary Word Lists, Dissection Instructions, or Assignments (See the Lab Blackboard Course page)
- Lab Resources and Study Materials (See the Lab Blackboard Course page)
- Open Lab (Days and times TBA)

**Use the text book as a reference unless you are told otherwise or like to read.**
COURSE MATERIALS:

- ASU HUMAN ANATOMY COURSE MATERIALS
  - Top Hat Response System. Mobile and electronic device driven platform that will be used in lecture for attendance, in lecture quizzes, and out of lecture homework activities. More information to follow via email and in lecture (online purchase can be from the Top Hat website). Also, if you plan on taking BIO 2424 next semester, purchase Top Hat for at least one year. There is an app for both Android and Apple based smart phones and tablets
  - You MUST obtain a basic, college level anatomy text and bring it to lab each week. You can choose any reference text you like. I would recommend OpenStax Human Anatomy and Physiology which can be downloaded in its entirety for free in a PDF format. You can also purchase a hard copy online at the OpenStax website
  - For lecture exams you will need to purchase (well in advance) and bring the day of the exam, Test-100 882 E Scantron Test Forms

- Non-sterile surgical dissection gloves (you will need these the first day of lab)
- Standard Human Anatomy Dissection Kit (optional...instructors will provide most dissection tools)
- Since lab material will be routinely distributed via the web, you are required to have internet and Blackboard access, and an official ASU email account. All communication will be through these media. ASU provides these services free at any of the computer labs on campus. Call the ASU Technology Service Center at 325-942-2911 for technical assistance.

INTERNET ACCESS IS REQUIRED for this course. Lecture and lab materials will be distributed routinely via the internet on Blackboard. In addition to many lecture and lab resources, there are many study tips and strategies that you may find useful in your studies. You may access the web free at any computer lab on campus and from home. For more information call the Informational technology department at 942-2911.

- You are required to have a Blackboard account and an official ASU email address. I will use these to make announcements, distribute materials (lecture notes, outlines, handouts, and exam checklists) and post grades. You can access Blackboard 24/7. Please visit the site regularly. If you have not used Blackboard before, you may wish to review the tutorial by selecting “the help” icon or call the ASU Technology Service Center at 942-2911 (MCS-111) for assistance.

GRADE DETERMINATION:

Your grade will be based on the total point accumulation (not percentages) you earn on assignments and exams in both lecture and lab. Your grade will be determined by the number of points you earn on lecture exams, lecture activities, quizzes, and Lab Practical exams. The total number of available points in the class is 1130. Final grades are assigned according to the following scale:

<table>
<thead>
<tr>
<th>Course Component</th>
<th>Maximum Points Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Laboratory Practical Exams &amp; 2 Lab Assignments</td>
<td>530 points</td>
</tr>
<tr>
<td>Lecture Exam 1</td>
<td>125 points</td>
</tr>
<tr>
<td>Lecture Exam 2</td>
<td>125 points</td>
</tr>
<tr>
<td>Lecture Exam 3</td>
<td>125 points</td>
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<tr>
<td>Lecture Exam 4</td>
<td>125 points</td>
</tr>
<tr>
<td>Lecture Activities, Quizzes, and other TBA assignments</td>
<td>100 points</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1130 points available</td>
</tr>
</tbody>
</table>
Grading Scale
A = 900 or more
B = 800-899
C = 700-799
D = 600-699
F = 599 or less
Various Point Values – Serve as a built-in curve equal to 1 letter grade.

Please note I do not curve exams or final grades nor are they negotiable (i.e. an 899.9 pts = B; 599.9 pts = F, etc).

Grades will be changed only if you can demonstrate (with verifiable evidence) that there was an error in how the grade was calculated or an incorrect grade was entered, but once the grade is posted on Blackboard you have only 48 hours to challenge it. (At the end of the semester is too late). See ‘Regrading Procedures’ below for a more complete explanation of how to do this. All students will be treated equally and fairly, and all grades will be calculated in the same way, regardless of extenuating circumstances or any reason not related to your actual performance in the course. However, much I may sympathize with your personal circumstances, I never consider them to be a basis for grade assignments. The activity points serve as an extremely generous, built-in curve. I strongly encourage you to take advantage of the activity points when they become available because once assigned they cannot be made up. Therefore you should always attend class and strive to do your best, so that you may earn the grade you want. It is your responsibility to keep up with your point total. Don’t worry I will help if you just ask!

ASSESSMENT MEASURES:

Laboratory Practical Exams:
Your lab performance will be assessed with practical exams and lab activities. These will be discussed in more detail by your lab instructor.

Lecture Exams:
In lecture your performance will be assessed by 4 lecture exams (see schedule) worth 125 points each for a total of 500 points in lecture. You are required to take all 4 exams, no exceptions. I will not drop any exam grades, but you will have the opportunity to replace your lowest exam score at the end of the semester (see make-up exams below). Lecture exams will assess your knowledge, comprehension, and application of the material presented in lecture and on-line notes, readings, or other class assignments made since the previous exam. A portion of your exams will also cover assigned plates (pages), from the Anatomy Coloring Book that you should be able to label and/or identify (i.e. figures you have been assigned for study will be selected and used on each exam). See schedule for specific plate assignments. The exams will also assess your application of the content in the form of research based, application, problem solving questions that will be assigned in advance from exam discussion questions. The format of all the exams will be multiple-choice. Tentative exam dates are given below. Exams are designed to be completed in a 50 minute time frame. See your exam discussion questions and the Exam 1 Take home quiz (on Top Hat) for sample questions. Student conferences are required for any freshman who fails any exam, quiz, or assignment or who has a combined lecture/lab grade of less than 60%. Upperclassmen may also be invited to meet with me at their discretion.
Exam Days:
On exam days, you will need a couple of good #2 pencils with erasers and a Scantron Test Form. I will provide you with all other testing materials. You will also be expected to adhere to the following guidelines: Line up at the door as you enter, place your books, backpacks, purses, caps, etc. at the front of the room. If you have something of value that you’re concerned about, do not bring it on exam day. Wear no hats, caps, sunglasses, or smartwatches. Electronic devices such as cell phones, MP3 players (iPods), tablets, laptops, recording devices, etc. are not allowed. You will not be allowed to carry your cell phone or pager, smartwatch, palm pilot, iPod, etc. during the exam. You must keep these devices with your belongings at the front of the room. If you have these or they go off during the exam, you will receive a ZERO for the exam in question and be dismissed from class. Please arrive as early as possible. The exam will begin promptly after the previous class is dismissed. After you have obtained your exam, you will randomly find a seat. Do not sit next to a student with an identical version of the exam (there will be multiple exam versions). If you need a left-handed desk, let me know before you have obtained your exam. No talking is allowed once an exam is distributed. You will also not be allowed to leave during the exam. If you have a question before the exam, wait until the exam has been handed out to all students before you ask. If you have a question during the exam, please raise your hand and meet me in the aisle. If you leave the room, you will have to turn in your exam. Please see me before the first exam, if you anticipate any problems with the procedures outlined above.

Lecture Exam Dates:
1. Lecture Exam 1 on Tuesday 12 February.
2. Lecture Exam 2 on Thursday 7 March.
3. Lecture Exam 3 on Tuesday 16 April.
4. MWF 11AM Lecture Exam 4 on Tuesday 7 May @ 10:30AM-12:30PM.

Make-Up Exams:
1. Lecture make-up exams will NOT be provided. This means there are NO make-up exams. No exceptions.
2. If you miss an exam (1, 2, or 3) for any reason, your highest exam score will replace the zero.
3. Your highest exam score will replace only one exam. If you miss more than one exam for any reason, you will not pass this course.
4. You may take any exam early once, IF you have a university recognized, verifiable excuse, I have the exam prepared in time, and you take it at a time convenient for me. You must meet all three of these criteria to take an exam early. No exam can be taken late. No exception.
5. Every student must take the final exam (exam 4). You will not pass the course if you do not take the final exam. At the end of the semester, those students who have taken exams 1, 2, 3, and 4 will have the opportunity to replace their lowest exam score with their highest exam score. You may replace only one exam score.

Lecture Activity Points:
These serve as your built-in curve. The volume of material covered in this course makes it necessary for you to dedicate a sufficient amount of time each day, not only to attending class, but to studying material outside of class. To encourage you to keep up with this material and to provide a means of self-assessment, activity quizzes, activities, and assignments will be made periodically during the semester. Activity points may also be available on lecture exams. There will be 100 activity points available throughout the semester in lecture. These activity points are the equivalent of a built-in curve equivalent to one full letter grade. Activity quizzes will cover material presented in lecture or from other sources and may be incorporated into each lecture exam. These quizzes will be announced in advance and taken in-class, out of class, or through Top Hat. Other activities (TBA) such as take-home assignments or in class activities may be assigned which form the basis of a quiz. These activities are
designed to help you learn the material even better! Points will be assigned based on the difficulty of the task and will accompany the instructions, so that you may maximize your points. All points earned on these activities are considered activity points and will be added to your cumulative point total. Activity points will not hurt your grade and can only serve to make it better, just like a built-in curve. If necessary and at the discretion of the instructor, adjustments to activity points may be made at the end of the semester to compensate for minor inconsistencies. Again, these points can only positively affect your affect your grade and in no way make it lower. While they can help improve your grade they do not make up for quality studying and good exam performance. Students who are not present for in-class lecture quizzes, activities, or assignments will not have the opportunity to make-up these points.

- Students who arrive late for class will not be given extra time to complete a quiz or assignment. In-class activity points cannot be made up.
- Top Hat quizzes or other activity point assignments not completed by posted deadlines will automatically receive a zero (no numerical grade is posted). Since these constitute activity points, they cannot be made up once given or assigned. This means that you cannot make up any activity points at the end of the semester, if you fall short of the score that you are seeking.
- Out of class assignments are considered late once class officially begins. Late take home assignments will not be accepted and a zero will be recorded.
- Again, this is your built-in curve and therefore we do not curve at the end of the semester. Please don’t wait until then to start being concerned about your grade.

Re-grading Procedures:
An answer "key copy" of each lecture exam will be made available after it has been graded and returned. You are encouraged to review the "key copy" to learn from your mistakes. You are also encouraged to confer with me via the outlined procedure below if you have concerns regarding your quiz or exam once you have compared your work to the key. To report calculation or grading errors on your exam, you are required to follow the Procedures for Re-grading shown below. Activity quizzes and assignments are not subject to re-grading, but math errors only.

1. If the error is strictly a mathematical error:
   - staple a note to your /exam which reads “math only” & turn it in to your instructor for a grade recalculation.
2. If you believe you have found a grading error:
   - remember that a 1 pt error is at best only .0025 pts on your final course average.
   - remember the exams are photocopied immediately after you turn them in (e.g. I will know if you have changed an answer). It is an expense I wish I did not feel compelled to bear.
   - study the key before you request that any question(s) be re-graded. You must clearly state your reason(s) for thinking the question has been graded incorrectly in a neatly written, attached note. “Question X is graded wrong or I deserve more points on question Y” are not reasons. This means I expect a clearly delineated/thoughtful reason based on verifiable factual information that your answer is correct (i.e. from a reputable source like your text or lab manual). This means I expect a short paragraph for each error along with specific page references.
3. Staple your justification to your exam and turn it in to me. Understand I will be very fair and accurate, but the entire exam will be re-graded AND if the resulting grade is lower than the previous, the second grade will replace the first.
4. The deadline for requesting any recalculating or re-grading is 48 hours following the posting of the grade on Black board...No Exceptions.
ATTENDANCE POLICY:

Attendance will affect your grade in the course. You are required to be in class every day and are responsible for all information given. ASU requires that attendance be checked at each class meeting. Via Top Hat a randomly generated attendance code will be generated at the beginning of each class meeting. You must enter this attendance code into your Top Hat application. If you arrive late, it is your responsibility to locate and enter the attendance code. Anyone who does not enter the attendance code at each day's meeting will be counted absent. You must stay for the entire lecture to get credit for attendance. Other means of taking attendance will also be used to cross reference your presence in class. I do not give points for perfect attendance nor do I subtract points for excessive absences. Attendance will affect your grade in this course however. You penalize yourself on exams when you miss class simply because you are missing learning opportunities. For example, activity point opportunities given in-class cannot be made up. Plus on average, students who miss a single lecture class score 6-8% lower than the class average on exam scores. This decreases about another 6-8% for missing two classes. Missing more than two lecture classes virtually guarantees a very poor exam score. In general it is true that students who exhibit erratic attendance do not perform to their full potential and may be perceived as having a lack of interest in completing the course. If a situation exists which is causing you to miss class excessively, I encourage you to discuss the situation with me. Excessive absences are required by the university to be reported to the Registrar’s Office, the Dean of Student Life and/or the department head of your declared major. If you are an athlete, the NCAA compliance officer and your coach will be contacted. Contrary to popular belief, a student who fails to attend class is not automatically withdrawn from a course and will receive a grade that represents their performance throughout the entire semester.

ACADEMIC HONESTY/PLAGIARISM/CHEATING:

No form of academic dishonesty will be tolerated. Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding and following the ASU policies on academic dishonesty contained in both print and web versions of the Student Handbook. Students in this class are expected to submit work in accordance with the guidelines of academic honesty provided by the handbook and/or their instructor. The penalty for ANY act of academic dishonesty is a grade of ZERO on the assignment and disciplinary action as warranted by the university guidelines that includes dismissal from ASU.

ANGELO STATE UNIVERSITY – HONOR CODE:

ASU expects its students to maintain complete honesty and integrity in all of their academic pursuits. Students are responsible for understanding and following the Academic Honor Code as outlined on the university’s web site and in the Student Handbook.
WITHDRAWAL FROM THE COURSE:
Contrary to what many students believe, you are not automatically withdrawn from a course if you cease to attend lectures or labs. If you wish to discontinue participation in human anatomy, you must formally withdraw by seeing your lecture instructor. Dropping the lecture automatically drops the lab, no separate drop slip is necessary. Failure to do this can result in a grade of F appearing on your academic transcript. The last day to drop the course is Thursday, 28 March.

SPECIAL NEEDS/DISABILITY STATEMENT:
Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request and to implement academic accommodations. Angelo State University is committed to the principle that no qualified person shall, on the basis of disability, be excluded from the participation in or be denied the benefits of the services, programs, or activities of the University, as required by the Americans with Disability Act of 1990. However, all students at Angelo State University must have the capacity and ambition to undertake, with reasonable assistance from the faculty and administration, the academic challenges necessary to fulfill the academic requirements for the degree or certification programs they are pursuing. Any accommodations will require documented, verifiable evidence from an accredited professional. If you believe your success in the course is at risk due to a disability, it is your responsibility to arrange a meeting with me by the end of the first week of classes, so that we may further assess your situation. I will work with you to provide reasonable accommodations so that you have a fair opportunity to perform successfully in this class, but only if you take responsibility.

RELIGIOUS HOLY DAY:
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence AND the first week of classes. Any make-up assignments will be need to be completed and turned in in advance. If an exam is missed, see Make-Up exams above.

ELECTRONIC DEVICES
Devices such as cell phones, smartwatches, pagers, iPods, etc. are not allowed to operate (i.e. camera use/ring/play/talk/text) during formal lecture. The ONLY use of an electronic device will be for the Top Hat Response mobile/electronic device platform for attendance and in lecture activities OR used in the writing or typing of lecture notes. NO CAMERA OR VIDEO USAGE IS ALLOWED DURING LECTURE. After an initial warning, you will be asked to leave lecture. You will also NOT be allowed to carry them during quizzes or practical exams either. No exceptions. If you carry them during a non-Top Hat activity quiz or exam you will automatically receive a ZERO AND will be immediately dismissed from class. They are considered by the biology department to be a disruption as well as a distraction to your fellow students and to the instructor. If the disruptive behavior continues, you will be reported to the Dean of Student Life and your department head. If you would like to use AUDIO recording devices such as tape recorders during lectures only, please ask.

STUDY TIPS
Study strategies specifically designed for a memory intensive course like anatomy are available on at the end of this syllabus. If you are unfamiliar with how to study for a course like anatomy or how to manage your time
effectively, it is well worth your time to take a look. This is especially important if you are a true freshman or have never taken a science course at ASU before. If this description fits you, please make an appointment with me as soon as possible so we may discuss a study work-out plan for you.

**Supplemental Instruction is available for this course.** SI sessions are student led, group study focused on helping you learn to be successful in human anatomy. Sessions are regularly scheduled, hour-long meetings wherein you will be able to participate in group discussion about the lecture and assigned readings. SI sessions cover the following:

- Key course concepts and how to identify important material
- Clarification of lectures and text; Efficient organization of course material
- Development of possible test questions and taking mock exams
- Problem-solving techniques and Critical thinking skills
- Study skills strategies (e.g., understanding lectures, effective note-taking, textbook reading, etc.)
- They will not help you complete homework/activity assignments.

The cost is absolutely FREE to students enrolled at ASU. SI leaders are former Anatomy students who performed exceptionally well in the course. SI Leaders are trained to lead small group discussions and assist you with problematic course concepts. Preliminary results indicate students who attended SI earned on average earn one to one and half letters grade higher on lecture exams than students who do not attend. More information will be provided later.

**A SPECIAL NOTE:**
We are excited you decided to travel with us this semester on a fascinating journey through the human body. Anatomy is the ABC’s of biology. It is fundamental and absolutely essential in understanding biology and an integral part of many other disciplines such as physiology, medicine, athletics, natural history, psychology, nursing, and other allied health sciences. Since Anatomy is taught in an academic setting, it requires a great deal of conceptual understanding and rote memorization...and although most of anatomy is straightforward, the amount of material and unfamiliar terms make it a seemingly difficult subject. You absolutely must prepare for class and study nearly every day to earn the grade you want. This requires you to PDA... practice (the content), be disciplined (to study), and possess a positive attitude (about the course). Any deficiency in these learning characteristics may affect your ability to learn and thus the grade you earn in the course. Let me put it this way. Some students who have never had a “real” science class before employ the same study strategies they have used in other classes only to find they are a dismal failure. For example, some students find that studying 30 minutes to an hour (or even not at all) before an exam in their major can easily earn a “C’s” (or even B’s) with no problem. That same strategy used in anatomy virtually guarantees you will be unsuccessful. You must therefore change your study habits to accommodate this science course. Anatomy requires you to be disciplined to study EVERY DAY! Therefore it is VITAL that you keep up with your studies starting from DAY 1. Students who get behind often have difficulty catching up because of the ferocity of the schedule and the amount of material covered on each exam. Don’t worry, many students are extremely successful in this course. The key to success often starts with budgeting your time carefully and making lots of room for anatomy in your schedule...again...we recommend 2-3 hours/day OUTSIDE of class. Successful
students in the past have told us that’s just about right. Like learning a foreign language, some students prefer the total immersion in the material which may help you as well. I can show you how to maximize your study time, so please don’t hesitate to ask me. I’m here to help you learn ☺️! Yes, I do care about your success. Yes, I’m here to help! Yes, you can do it! See the study tips on Blackboard for more information. I know that anatomy can seem overwhelming at times, but it really can be easy IF you are just willing to put time and effort into the course. It will take intense dedication on your part, but I will do everything I can to help you achieve your learning goals.

If you are unfamiliar with or unaccustomed to studying for a memory intensive, science-based course like human anatomy please review the study tips on Blackboard for useful information that has helped students just like you! Read on for more information.

WHAT YOU NEED TO DO TO EARN AN A (OR THE GRADE YOU WANT):
The fact that you’re reading this shows that you have the potential to be an “A” student. In fact, I would like for every student in this class to earn an A. Read that again....Shocking isn’t it? Yes, believe it or not I want you to do well and if you’re reading this, I sincerely believe you have the potential to do so in this class. I will do everything in my power to help YOU EARN the grade you want, but you’ll have to do your part too which means studying for complete understanding every day, attending class and lab, and learning beyond just memorizing the facts.

Anatomy is conceptually easy to understand, but learning it will require much effort on your part. Many students after an exam say, “but I knew the material,” or “I even studied for 8 hours,” and are truly bewildered by a grade lower than they anticipated. The problem is that there’s a big difference between understanding something you hear and/or read and knowing it. Understanding is what has to come first, but knowing is beyond even that. Knowing requires being able, without reference, to (1) repeat what you hear/read, accurately and completely, AND (2) use what you’ve heard/read to figure out things you’ve never seen before at all! In other words using what you know. Don’t let time dictate your studying; let learning. Study until you “learn” the material, no matter how much time it takes.

Also consider that knowing requires a degree of familiarity and usefulness of the material that cannot occur overnight. Cramming doesn’t work. I suggest you spend “quality time” with anatomy everyday. Also don’t be deceived by the large amounts of free time in your schedule. They simply do not exist. The general rule of 3 hrs of outside study a week for each hour of course credit is no joke. Such experiences have led to the classification of a person carrying 12 semester hours as a full-time student.

Here are some examples:
- 3 hours of outside study/hr of class x (12 class hours) = a 36 hour work week outside class + 12 hours in class = a 48 hour work week (i.e., College is a full time job!).
- Or to put it differently 75% of what you accomplish is done on your own. This may be vastly different from your experience in high school or other courses. Please believe me when I tell that studying for just 30 minutes before an exam or practical will not work in this course. You therefore must accept responsibility for much of your own learning.
• This means for anatomy, you need to study 12 hours a week! Read that again...Yep, that’s what it takes.
• If you have a part time job, you are just doubling your work week. Time management is critical. To study 12 hours a week we suggest getting a calendar, marking all your exam dates on it, and preparing a weekly schedule of study/play/work time.

So how do you become an “A” student?
Well it really is simple isn’t it? You must come to class and you must study...for learning. Seems easy enough to say, but is often more difficult to put into practice. The feeling of being lost or overwhelmed by the material is not uncommon. Neither are the feelings of uneasiness and frustration. A positive attitude is difficult to maintain when frustration rears up. But I am here to help you achieve those goals. Okay, okay So what’s the real way...the bottom line...the trade secret? Well to put it frankly, THE most important strategies you can do to ensure the grade you want are (1) REVIEW your lecture notes and lab material DAILY (2-3 hours) (2) KEEP UP with the coloring book plates and checklist questions, AND (3) POSSESS a proper ATTITUDE about learning. I’m not kidding...they are all that important to success in anatomy. Successful students tell me so and I have seen it time and time again. So please don’t be like Calvin in these cartoons 😞 He has a poor attitude. If you are unfamiliar with how to study for a science course, please see me for help or use the study tips posted on Blackboard. Here are just some more tips from those who have traveled this path before you.

STUDY STRATEGIES OF A and B STUDENTS in HUMAN ANATOMY

Based on the experiences of successful anatomy students of the past, we have prepared this handout to assist you in your studies. Listed below are the top study strategies of A and B students consistently reported to us in surveys. Please note Calvin’s is first 😞!

1. Reread your lecture notes and lab material EVERY DAY after class. Research shows if you read your notes for 10-15 minutes a day, you will absolutely do better on your exam than if you didn't. Why? because you won’t have to cram in the end You will already be familiar with your notes. In addition, you will have discovered early on what you do not understand and can get help well before the exam. This is by far the most common strategy used by A and B students. Repetition simply works!

2. Recopy/Reorganize your notes - Some folks simply recopy their notes after lecture. Others will reorganize them and incorporate information from their text to supplement those taken in lecture. Still others take notes using the 3-column method. One large central column is used for notes. Two smaller peripheral columns are used for the actual reorganization. One column is used for generating questions, ideas, and comments, the other for the actual reorganization of the notes. People tell me it works. The idea is to spend as much time as possible with the material and to get help with concepts you do not understand early.

3. Study the coloring book plates and lecture notes at the same time. This is an excellent way for you visual learners to maximize your study time. The coloring book structures most often asked on exams are the ones covered in the lecture notes. So while your study the “liver” in your lecture notes, have the coloring book plate open to the “liver” to visualize the textual material you’re reading. You’ll automatically be studying for both portions of your lecture exam. Also since many coloring book plates are duplicated between lab and lecture, you’ll also find you’ll be able to “double dip.” Those plates you are required to know for lab are also the same plates you have to know for lecture. If you learn it well the first time, it will only take a brief review later. This can help you maximize the number of points you are able to receive on both lecture and lab.
4. **Form study groups and go over material together.** If used properly, this is a great way to study. Schedule weekly meetings with your group to “go over the notes.” You can see if everyone else got the same thing out of lecture as you did. If things are not clear, you can make a list of questions and ask your instructor for clarification. Likewise in lab having a consistent study partner quiz you can help you know early on whether you are retaining the material.

5. **Develop the habit of asking questions to yourself and to your study group.** For example, "What would be a good test question from this material? What don't I understand about this? What is/are the main idea(s)/process(es)/application(s) of this topic? Why and When do they happen? etc." You'll find that you will begin to anticipate the actual test questions! Good students always ask questions. This shows they are enveloping themselves in the culture of the course and constantly reviewing the material in their minds so that it makes since. Psychology tells us this is how most people learn...by asking questions.

6. **Manage your time efficiently** and prioritize/schedule your days to include school, work, family, fun, friends, health, and exercise. Calendars are wonderful things and no college student should be without one. We recommend writing down exam dates, etc., from all your courses so you'll always know what's coming. In addition it's also helpful to write down your work schedule and or any other important dates. A and B students know how to prioritize and most tell us they do study 10-15 hours a week for anatomy alone. They break the material down into manageable chunks (i.e. a little everyday) and don’t ever procrastinate.

7. **Attend lecture and lab.** Some of the topics and specific examples we will use you will not be able to get unless you come to class or discussion. Attendance and participation are vital to your success in this course. Our statistics tell us that A and B students almost never miss class or lab. Those students who miss just one class or lab score on average 6-8% lower than the class average on exams or practicals.

8. **Make a vocabulary sheet/or flashcards and keep them with you at all times.** Yes this is just what you did in high school, but it works. Lots of students find that this helps them learn the vocabulary quickly and easily. You can pull them out anywhere and review. You'll be surprised what you can learn waiting in line for 10 minutes. Remember you will learn as many new words this semester as you would in a beginning foreign language course (about 3500 or so).

9. **Internalize New Words.** To internalize (learn) a new word, to make it truly part of your vocabulary, you must use the word and use it often. Write it and speak it at every opportunity. Make opportunities to do so. Yes, I just said this, but it is worth saying again. Don’t just stare at the diagrams and illustrations in your references; draw on your own...and label them! Test your comprehension and retention by discussing the material. Study in a group. Set up weekly meetings to “go over the notes.” But don’t permit anyone at any time to substitute words like “thingy,” “stuff,” “doodad,” or “dealie” for the proper words required. You’ll defeat the whole purpose of discussion if you do.

10. **Read your text and lab manual before (or after) class.** Reading can help solidify your understanding of the material and help you retain information. For example, if you’ve read material ahead of time and then hear it in lecture, you’ve just helped your brain make an association between the two sources of information. Conversely if you read your text after lecture and remember me lecturing about it, you’ve just made another connection. Psychologists tell us that’s the first step toward learning...making associations. Ask me about successful and efficient ways or reading your textbook assignments.

11. **Take advantage of lab time/extra lab time.** The lab portion of this course is vital to you success. Lab is scheduled for 3 hrs/week that may not be enough for you. You need ALL of that time and more if its available...read that again. You need to always come prepared to work and stay the full 3 hours. A and B students often read ahead to get a jump on things and frequent open lab every chance they get.
Anatomy lab requires a high level of comprehension and familiarity that only come with hands on experience and lots o' practice. It still amazes us when people goof off in lab or consistently leave early and then come crying to us when they perform poorly on the practicals. To do well in this course you need to take advantage of lab time. A & B students do. We simply can't help you if you're wasting time/leaving early/or not attending lab.

12. Same as number 1. This should tell you how important it really is. The single most important study strategy you can implement in human anatomy is reviewing and recalling your lecture and lab material every day, especially within 24 hours of each lecture class and lab. The figure below shows what happens if you review and recall your notes within 24 hours or not. For those students who review and recall their lecture and lab notes everyday within 24 hours, one can almost guarantee success in recalling material even after 63 days. There is such a drop in retention of material if you wait 24 hours to review that it becomes very difficult to master the course with the amount of material we have. This is especially true if you try to cram all the material in the night (or even several days) before a lecture exam or lab practical. Why does reviewing and recalling your notes and lab material within 24 hours of class work? Basically there are two causal explanations. One is that you won’t have to cram. You will already be intimately familiar with your notes when the exam arrives. In addition, you will have discovered early on what you do not understand and can get help well before the exam. Again this is by far the most common strategy used by A and B students. REPETITION works...and...it won’t get done by itself. It takes EFFORT and of course what Calvin is selling.

There is a greater drop in retention in 1 day without reinforcement than in 63 days, if recall and review are used.
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1 http://blackboard.angelo.edu