This syllabus provides a general plan for the course; if there are any deviations, you will be notified.

**Instructor:** Dr. Fajer Jaafari

**Office Number:** 120 H, Science Hall

**Email Address:** fajer@uta.edu

**Office Hours:** Tuesday, Thursday from 11:00 am-12:00 am

**Course and Section Information:** Phys 3360, Section 001.

**Time and Place of Class Meetings:** MW 2:30PM - 3:50PM

**Room:** ........

**Text Book:** Physics of The Human Body by Richard P. McCall. The Johns Hopkins University Press.

**ISBN-13:** 978-080189456

**Description of Course Content:**
This course, PHYS 3360: How Human Body Works, is to explores the basic physics principles to describe numerous actions and properties of the human body.

**Topics of Study:**

1- **Motion and Balance:** Discusses motion of the human body and describes how the use of forces and torques allows a person to walk, to lift an object, or to maintain balance. It looks at the importance of muscles, bones, and joints in the process of human motion.

2- **Fluids and Pressure:** It discusses fluids and pressure in the body, which leads naturally into a
description of blood pressure, the heart that provides the pressure, and blood flow through arteries and veins. It investigates the pressure in various organs such as lungs, the brain, the bladder, and the eye, as well as pressure applied to solids such as bones, with brief look at bone density.

3- **Energy, Work, and Metabolism**: It describes energy in the body, including discussions on work, temperature and heat, and metabolism. Also explores regulation of body temperature, food calories and exercise.

4- **Sound, Speech, and Hearing**: It discusses principles of sound applied to speech and hearing. It looks at waves and harmonic motion, the sound frequency spectrum, the production of speech in the larynx, and the detection of sound in the ear. It includes a discussion of hearing problems and other applications of sound waves, such as ultrasound imaging.

5- **Electrical Properties and Cell Potential**: It describes the electrical properties of the body by looking at the electric forces and fields as well as electric energy and voltage. It extends the exploration to static electricity, conduction of electrical signals along neurons, and a description of the membrane potential. Then some application such as electrocardiogram or EKG.

6- **Optics of the eye**: It focuses on optics of the eye and discusses image formation by lenses in general, and specifically how the eye causes light to refract and form an image on the retina. Then describe vision problems and techniques for correcting them, such as contacts or LASIK.

7- **Biological Effects of Nuclear Radiation**: It explores the biological effects of nuclear radiation and the nucleus of the atom, then look at nuclear radiation and its damaging effects on human tissue. But also describes the important useful applications of radiation, particularly in the medical field, such as diagnostic imaging and methods of treating cancer.

8- **Drug Delivery and Concentration**: It explores methods of taking medication and the elimination of medication from the body. It discusses changes in medication concentration over time using mathematical modeling(s).

**This course will address four core curriculum objectives:**
- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
- Teamwork

**Prerequisites:**
College Algebra.
Required Textbooks and Other Course Materials:

1- Text Book

2- Class Slides: The class slides will be available on Canvas.

4- Notebook

5- Scientific Calculator

Descriptions of major assignments and examinations:

1- There will be five Discussions/Presentations assigned to the class.
2- A HW after every Chapter or a Section.
3- Three Tests (Drop the lowest one)
4- The Final exam/Final Project.
5- Class Activities

You will be allowed to drop the test (of the first three) with the lowest grade. There will be no makeup tests, except in special circumstances in which case they must be arranged in advance.

Attendance:
Attendance in class is required, since lectures will provide supplemental material that will appear on the tests. Roll call will not be taken on regular basis, but there will be several class activities, for example, group discussions, homework activities etc.

Grading policy:
15% HWs
5% Class Activities
15% Best Test A
15% Best Test B
25% Discussions
25% Final Project

The grading scale would be as follows:
90-100: A;
80-89: B;
70-79: C;
60-69: D;
Less than 60: F (Fail)
Description of the Elements of the Course

1. Chapters HWs on CANVAS – 15% course grade
There will be in all 6 HWs from a total of 5 Chapters that are mentioned in the course syllabus. Each HW will typically consist of many Multiple-Choice Questions (MCQs). HWs should be finished before the due date for that chapter. All Home-works will be easy once you have read the book and slides thoroughly. No credit will be given if responses to the HW are given after the due date. Students can use the HW after the due date for practice, but not for credit. Out of the total number of HWs taken during the course of the class.

2. Discussions on Canvas – 25% course grade
The discussions are associated with each chapter subject. There will be a total of about 5 discussion topics. To get the full credit for the discussion you must submit your own power point presentation and evaluate all other presentations. Students need to submit their original work for the discussion topic by the end (Sunday) of the assigned week. This way other students will get enough time to read your post and respond accordingly the following week before the due date. The maximum point for each discussion is 100. Up to 60 points will be given for your own posting based on its quality, and 40 points for your critical and thoughtful comment to at least 4 posting. Suggestions and tips: Your responses to other students must be well thought and researched that further enhances the quality of the on-going discussion and make others think critically. Just saying "me too", "I agree", "It’s awesome", "I like it", "I never thought of it before" etc. is not enough for the grading point of view. You can supplement these phrases with more examples and ideas to get the credit. You can explain in scientific terms WHY do you agree or not agree with the other student’s posting. It would be useful if you imagine that you are having a thoughtful conversation and critically discussing the topic with a person sitting next to you. Response Time: Your discussion will be graded within a week after passing the deadline of each assignment. No credit will be given to responses posted after the deadline. The discussions contribute a total of 25% to the final grade.

3. Tests (Best 2 of 3) on Canvas– 30% course grade
A Total of 3 tests will be held in the course. These tests will be available on Canvas. In calculating the contribution of tests towards the final grade, the best two out of three will be used. If you are not able to take a test for some reason, that will be your dropped test. Since I drop the lowest test grade, no makeup tests will be given. Tests contribute the highest percentage towards the final grade. This will show exactly what you are learning in the course. Each test will be timed. You will have 50 minutes to record your responses for each test. Each test will have 25 Multiple Choice Questions (MCQs). All tests will be closed book. Once the test is started you have to complete it fully, you can’t leave it halfway and come back later. So, please make sure that you have suitable time and no other activities scheduled when you take the test. Also before taking the test, make sure your computer and internet connection are working properly. The test can only be taken once. The exact dates, timings
etc. are mentioned in the “Schedule” section of the course. Mark your calendar in advance for the tests dates.

The coverage of the syllabus in each test is as follows,

**Test 1** – Chapters 1 + Math Review  
**Test 2** – Chapters 2, 3.  
**Test 3** – Chapters 4, 5

For each test, 25 questions will be distributed almost equally on all chapters listed above for that test. The two best scored tests from all three taken will contribute 30% to the final grade.  
**Note:** The HWs and Tests are closed book exams. In addition, you will be required to use the [Respondus Lockdown Browser to take the Test](respondus.com).

**4. The Final Project - 25% course grade**

Presentation covering one of the last 3 chapters (6,7, 8).

You must submit the **Project on Canvas**. The Project will be assigned to each student early the semester after the first week of the semester. Each student will get the assignment of the last three chapters. Details are displayed under Final Project link.

The Final Exam will contribute 25% to the final course grade.

**5. Class Activities – 5%:**

There will be multiple in-class activities. Participation is included.

**Hands on Activities**

![Human Arm Model](human-arm-model.png) ![Human Eye Model](human-eye-model.png) ![Human Structure Model](human-structure-model.png) ![Human ear Model](human-ear-model.png)

<table>
<thead>
<tr>
<th>Course Element</th>
<th>Weight</th>
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<tbody>
<tr>
<td>1. Chapters’ HWs on Canvas</td>
<td>15 %</td>
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<tr>
<td>2. Biweekly Discussions on Canvas</td>
<td>25 %</td>
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<tr>
<td>3. Best Test 1 on Canvas</td>
<td>15 %</td>
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<tr>
<td>4. Best Test 2 on Canvas</td>
<td>15 %</td>
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<tr>
<td>5. Final Project on Canvas</td>
<td>25 %</td>
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<tr>
<td>6. Class Activities</td>
<td>5 %</td>
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<td>Total</td>
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Expectations for Out-of-Class Study: A general rule of thumb is this: for every credit hour earned, a student should spend 3 hours per week working outside of class. Hence, a 3-credit course might have a minimum expectation of 9 hours of reading, study, etc. Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Netiquettes (stands for Net or Online Etiquettes)
At UT Arlington we emphasize and try to maintain the highest ethical standards in personal and professional communication. Treat your online class the same way you would the face-to-face class. Written yelling, shouting or demeaning of classmates’ postings and ideas will NOT be tolerated. Try to be polite when communicating with the instructor or the classmates. Use of racial or ethnic slurs, flaming, or derogatory statements are grounds for disciplinary actions.

Academic Dishonesty/ Plagiarism
Even though this is an online course, you are just as bound to the university’s academic dishonesty policy as the students in face-to-face on-campus courses. It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents’ Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22).

E-Culture Policy
The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email.
All students are assigned an email account and information about activating and using it is available at www.uta.edu/email. New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington. Students are responsible for checking their email regularly.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aa/faq/).

**Disability Accommodations:** UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: The Office for Students with Disabilities, (OSD) http://www.uta.edu/disability/ or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

**Counseling and Psychological Services (CAPS) [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671** is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

**Non-Discrimination Policy:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

**Title IX Policy:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit
www.uta.edu/titleIX or contact Ms. Michelle Willbanks, Title IX Coordinator at (817) 272-4585 or titleix@uta.edu

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

>I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.
>I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents’ Rule 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at https://www.uta.edu/conduct/. Faculty are encouraged to discuss plagiarism and share the following library tutorials http://libguides.uta.edu/copyright/plagiarism and http://library.uta.edu/plagiarism/

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week: for semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During
this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** [Required for face-to-face courses; should be omitted for online courses] Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located [insert a description of the nearest exit/emergency exit]. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

[As you see, this section requires faculty members to be fully aware of the exits nearest their classrooms, even before the semester begins. Evacuation plans may be found at http://www.uta.edu/campus-ops/ehs/fire/Evac_Maps_Buildings.php. In the case that you are unable to ascertain this information in time for your syllabus, you must be sure to explain to your students on day one how best to exit the building. Inclusion of this verbiage as well as a brief discussion on the matter with your students at the beginning of the term is mandated by UT Arlington Procedure 7-6: Emergency/Fire Evacuation Procedures (http://www.uta.edu/police/Evacuation Procedures.pdf)]

[Should you learn that your class roster includes students with physical/sensory disabilities, you should arrange to meet *in private* with each of these students to discuss their needs for assistance in the event of an emergency evacuation.]

Students should also be encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at https://mavalert.uta.edu/ or https://mavalert.uta.edu/register.php

**Student Support Services:** [Required for all undergraduate courses] UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/studentsuccess/success-programs/programs/resource-hotline.php

The IDEAS Center (2nd Floor of Central Library) offers **FREE** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

**The English Writing Center (411LIBR):** The Writing Center offers **FREE** tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their
UTA coursework. Register and make appointments online at https://uta.mywconline.com. Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

The Library’s 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation. http://library.uta.edu/academic-plaza

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**Emergency Phone Numbers**: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381

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**LIBRARY library.uta.edu**

**RESOURCES FOR STUDENTS**

**Research or General Library Help**

Academic Plaza Consultation Services library.uta.edu/academic-plaza

Ask Us ask.uta.edu/

Library Tutorials library.uta.edu/how-to

Subject and Course Research Guides libguides.uta.edu

Librarians by Subject library.uta.edu/subject-librarians

Research Coaches http://libguides.uta.edu/researchcoach

**Resources**

A to Z List of Library Databases libguides.uta.edu/az.php

Course Reserves pulse.uta.edu/vwebv/enterCourseReserve.do

Study Room Reservations openroom.uta.edu/