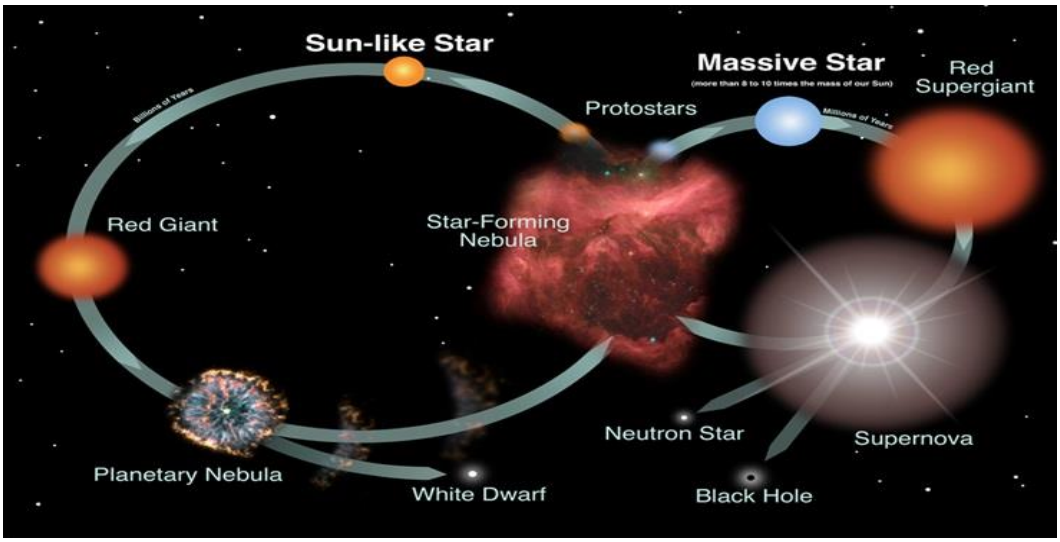
Stellar & Galactic Astronomy
Panola College

16-Week Course
Text: Astronomy

PHYSICS 1403

Stars & Galaxies

An Introduction to Stellar & Galactic Astronomy



Instructor: Sayed Ali Khan, PhD.
903-693-2042 (office)
sayed.khan@panola.edu (start subject line with PHYS 1403)
Best Method of Contact: in-course Inbox inside Canvas
Professor will normally respond within 24 hours or sooner Mon-Fri
(Message me in Canvas Inbox to arrange an appointment)

Required: Astronomy by Fraknoi, Morrison, Wolff, et al.
The textbook is freely available through OpenStax at the links below.
Free Astronomy Book for Download - OpenStax (online access)
Astronomy 2e (downloadable versions)

Technology Requirements: PC computer with fast Internet access, webcam, and microphone
Ability to download, install, and run Stellarium (software is a free download)
Ability to view and understand online videos such as YouTube
Ability to use, enter data, manipulate graphs, and save files in MS Excel format
Ability to access and use all functions of MS Office 365, scientific calculator, pdf reader, VLC Player, Winzip, Printer, etc. (or equivalent programs)

IMPORTANT NOTES:

Chromebooks and Linux machines will not work for labs.
You must use proctoring software for proctored exams.
Proctoring software requires the Chrome browser. Use Chrome!
MS Office 365 is a free download and must be used for Excel.
Non-Windows machines are not supported in labs. *

*Don't let this scare you off. Many Mac users have successfully completed this class. However, all lab instructions are written from the perspective of a Windows PC user. Mac users will need to translate the lab instructions from those for a PC into those useful on their machine. This is mostly straightforward but may require some Mac-savviness to accomplish. Again, many Mac users have successfully completed this class.

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Very Tentative Class Schedule:

Week No.	Start Date	End Date	"Astronomy" Chapter No.	Description of Content	Lab
1	Aug 18	Aug 24		Introduction	Stellarium Lab
2	Aug 25	Aug 31	15 & 16	The Sun	Solar Rotation
3	Sep 01	Sep 06	17	Analyzing Starlight	Stellar Distances Lab
4	Sep 07	Sep 14	18 & 19	Star Characteristics and HRD	Wien's Law Lab
5	Sep 15	Feb 21	20	The ISM	HR Diagram Lab
6	Sep 22	Sep 28	21 & 22	Star Birth and Life	Planetary Nebulae Lab
7	Sep 29	Oct 05	23 & 24	Star Death & Black Holes	Midterm Prep Lab
8	Oct 06	Oct 10	--	MIDTERM EXAM	
9 &10	Oct 11	Oct 17	25	The Milky Way Galaxy Including Spring Break	Exploring MWG Lab
11	Oct 18	Oct 24	26	Galaxies	Hubble Tuning Fork
12	Oct 25	Oct 31	27	Active Galaxies	Dark Matter Lab
13	Nov 01	Nov 07	28	Galaxy Evolution	Hubble-Lemaitre Lab 1
14	Nov 08	Nov 14	29	The Big Bang	Hubble-Lemaitre Lab 2
15	Nov 15	Nov 21	30	Life in the Universe	Final Prep Lab
16	Nov 22	Nov 30		Finishing Up	
17	Dec 01	Dec 10		FINAL EXAM	

Grading:

Mid-Term Exam	15%
Final Exam	15%
Weekly Quizzes	20%
Weekly Discussions	25%
Lab Assignments	25%

(Each item is described below)

A = 100-90.0%
B = 89.9-80.0%
C = 79.9-70.0%
D = 69.9-60.0%
F = less than 60.0%

The Weekly Assignment Message:

This class is broken up into weeks, and there is one course module per week. At the top of each module, you will find a weekly assignment message in the form of a pdf document. It is usually named something highly imaginative like "Week 01 Assignment." These assignment messages are vitally important things. Each assignment message contains activities related to both the lecture and the lab. You will receive a grade for the activities in these messages.

Your grade will be determined based upon your performance on the following items: 1) mid-term exam, 2) final exam, 3) weekly assignments, and 4) lab activities. Each of these items is described below.

Mid-Term and Final Exams (25%):

The mid-term and final are the two major proctored exams for the semester; they are both highlighted in the schedule above. Both exams are comprehensive in nature, meaning that all material covered is fair game for each exam. The percentage each exam counts is shown in the grading scheme above and is about average for exams in undergraduate-level courses. Exams are proctored using Lock Down Browser with mandatory room scanning and valid student ID verification. Failure to complete **any** of these requirements will result in the exam being invalidated. In such cases, the student will be required to retake the exam at the **Panola College Testing Center** or another **approved testing center** authorized by Panola College.
Each exam is timed and delivered one question at a time. You must answer each question before proceeding to the next, and you will not be able to change answers once you proceed.

Students who need special accommodations for testing need to contact the DSS Office located in the Student Success Center in the Charles C. Matthews Foundation Student Center. Accommodations can only be granted through this office. To make an appointment or for additional information please contact the DSS Office:
Telephone: (903) 693-2046
Fax: (903) 693-2031
Email: dss@panola.edu
TTY/TDD: use Texas Relay at 800-735-2989

Weekly Assignments (30% total):

First let's define "the week". Each class-week starts on Monday and goes to the next following Monday. The only exceptions to this are the weeks at the beginning and end of the semester, as well as some holidays. The tentative class schedule above shows how the weeks are divided. Weekly assignments may include activities such as readings, quizzes, homework, discussion questions, lab reports, online activities, and other assignments. The weekly assignments will be made available online no later than Monday night of each class-week. For the most part, all the activities associated with the weekly assignments must be completed by the following Monday night of the next week. You are encouraged to carefully *read each weekly assignment message as early as possible so you can be aware of deadlines*. In fact, many students find it helpful to print out the assignment message each week and go through it using a highlighter to

highlight each of the week's activities. Please consider doing this. You are personally responsible for your learning.

PRO-TIP: Do not wait to start your assignments. You will not have enough time to complete all the assignments if you delay starting.

Weekly Quizzes (20%)

Part of your weekly assignments include chapter quizzes. Unless told otherwise, each quiz is due at the end of the class-week. The content of each quiz is the material covered during the week. The quizzes are not timed, and you may go into and out of them as many times as you wish to make changes before the deadline. You will usually be allowed a limited number of attempts to complete each quiz. However, once you submit a quiz, then you may not make changes to it. You may use any resources you wish to complete the quizzes; however, you should try to limit your use of resources since you may not be able to use such resources when you take the midterm and final exams. The material covered in the weekly quizzes is indicative of the material covered in the major exams. NOTE: Quizzes are not exams. Quizzes are of the same general format and cover similar, not identical, material as exams.

Weekly Discussions (25%)

Part of your weekly assignment will include postings to an online discussion each week. You will participate in weekly online discussions on science-related topics; many topics may span two-week periods. Your posts should reflect and integrate your understanding of the readings as well as your experiences. The topic of the week will be mentioned in the weekly assignment and will probably consist of one or more open-ended questions. You will need to address the topics and answer any questions by making a substantive post. A substantive post is a well-written essay of at least 100 words in length showing critical understanding. After others have posted their answers, you will then need to read the other responses and post a second substantive response to at least one or two other student's original answers. You will discover that the questions are often thought-provoking and may require some additional research on your part before you can make a meaningful substantive post. To receive full credit for discussions, you must participate each week and become involved in the discussion.

PRO-TIP: Pay attention to the deadlines. Discussions usually last two weeks. Post sometime during both weeks. Don't think that by posting multiple times right before the deadline gets you a good grade. It doesn't. You must participate during all weeks.

PRO-TIP: About half your discussion grade comes from the first post. If you don't make that first post by the first deadline, then the max you can earn is half credit.

Laboratory Activities (25%):

Lab activities will also be part of each week. The lab activities will be conducted online or utilize software you have downloaded. It is important that you have a computer

to which you can download and install programs with a fast and reliable Internet connection to complete these assignments. Also, at times, the week's lab activities may be combined with other weekly assignment activities. If such a combined assignment occurs be conscientious because the combined assignment counts more.

The lab activities may come from a variety of places online. Instructions for labs are written for users of PCs running Windows-based systems. Tech-savvy non-Windows (Mac or Linux) users may be able to figure out workaround solutions for labs, but Macs or Linux machines are not supported for labs in this class. Most Chromebook operating system and Windows: S-Mode systems will not run the lab software. A more detailed explanation of what this means can be read in the "Starting with Stellarium" lab template file. The bottom line is you will need to download, install, and run Stellarium from your computer. Any web-based or mobile versions of Stellarium are not sufficient for labs in this course.

When you submit your lab reports, questions, or templates it is a requirement that you upload them using the in-course assignment submission system. Lab reports or lab templates sent via other means or sent in the incorrect format will not be accepted. This is a set-in-stone rule, so make sure you know how to do this properly and do it before the deadline each week.

This course is a 4-semester hour lab course that requires the use of a few different programs that must be obtained online, including the Microsoft Office suite. You can access these programs for free through your college. If there is a link to these programs inside of Canvas, then use that to install the programs. If there is no link, then either ask your IT Services department or go to your college's website and search for Microsoft Office 365. Follow the instructions to create an account and download/install the programs. You must use the fully installed version of MS Excel in this class. The online version of Excel will not work for some labs.

Communicating with Your Professor

1. You may stop by my office at the Dr. Gregory S. Powell Science Center (PSS2304), Panola College, Carthage Campus. Call/email if you want to meet face-to-face to make sure I'm in.
2. You may call my office anytime at 903-693-2042 to decide for a meeting or to talk. If I am not there, you should leave a message.
3. You may email me at the email address shown at the top of this syllabus, but if you do send email be sure to start the subject line with PHYS1403 or else your email may become lost amid the literally hundreds (yes, hundreds) of emails received every week.
4. The very best way to communicate with me is through the in-course message system inside Canvas (Canvas inbox). This method utilizes your Canvas Inbox. This method of communication is also secure and allows for discussion of normally confidential things, like grades, etc. I cannot discuss grades and other confidential matters via the phone or outside-of-course email.