

Parkland College

Astronomy Courses

Natural Sciences Courses

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Astronomy 102 Online Stars, Galaxies, The Universe Fall 2015

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Instructor: Erik Johnson**Email:** ejohnson@parkland.edu**Phone:** 217-353-2096**Office:** L212**Observing hotline:** 217-373-3782 ext. 6407#**Observing texts:** 815-683-6111**Student contact hours:** M 12 PM – 1 PM, T 10 AM – 1 PM, W 10 AM – 11 AM**Course websites:** cobra.parkland.edu
bcs.whfreeman.com/deu5e (book companion site with animations, flashcards, practice quizzes)**First Online Course?** Before you begin, make sure you're prepared for an online class by reading through the information on the Parkland website here: <http://online.parkland.edu/index.cfm?page=ready>**Thirteen-Week Course:** Although you have only thirteen weeks for this class, you are expected to complete the same amount of material as a full-semester course. Plan to work at an accelerated pace, because it will be harder to catch up if you fall behind. Please keep in touch with me to help your progress.**Email:** Email is probably the quickest way to contact your instructors. I will often email you through your Cobra account, but you can forward those emails to another account of your choice. All assignments, labs, etc. must be submitted into the specific submissions dropbox for each assignment on Cobra in order to get credit for the assignment.**Live chats:** During my student contact hours throughout the semester, I will hold a live chat using Adobe Connect. If my scheduled student contact hours are not sufficient, please send me an email so we can schedule another time to use the system. You may connect with the following link. parklandcollege.adobeconnect.com/ejohnson/ Please sign in as a guest by entering a user name. I recommend you use your real name so I'll recognize you. I will then accept you into the room and we can chat. You may be prompted to download Adobe Flash Player. If so, you'll need to do that before you can enter the chat room. If you are on campus, you are welcome to come by during my on-campus office hours during the times and at the location listed above.**Textbook:** *Discovering the Essential Universe* by Neil Comins, Sixth Edition (Fifth Edition is also acceptable)
The textbook is available for purchase or rental in the bookstore, and the ebook is available for a 180-day rental at the bookstore or at ebooks.bfwpub.com/deu5e.php**Software:** You will frequently use the Stellarium planetarium software during this course. You must complete the tutorial for the first lab. Stellarium is available for free at stellarium.org.**Disabilities:** If you believe you have a disability for which you may need an academic accommodation (e.g. an alternate testing environment, use of assistive technology or other classroom assistance), please contact: Cathy Robinson, Room U260, 217-353-2082, crobinson@parkland.edu.**Veterans:** I welcome student veterans of military service to join Student Veterans at Parkland (SVAP), a student group that meets Wednesdays at 3:00 PM in U299. For further information about veterans' issues, please contact Kristina Taylor, Financial Aid Advisor/Veterans Certifying Official, 217-351-2228 or ktaylor@parkland.edu or Lori Williams, Professor of English/Student Veterans at Parkland Faculty Advisor, 217-373-3792 or lwilliams@parkland.edu.**Addenda:** Please access Cobra to view the college-wide policies, which contain invaluable information to help you succeed at Parkland. Go to cobra.parkland.edu/shared/shared%20content%20files/syllabus_addendum.html.

Grading:	900-1000 points	A	Pre- and Post-Assessment and Syllabus Quiz:	15 points
	800-899 points	B	Quizzes (40 points each, seven):	280 points
	700-799 points	C	Lab Activities (20 points each, 14):	280 points
	600-699 points	D	Activities (10 points each, seven):	70 points
	0-599 points	F	Observing session and report or alternate:	80 points
	or < 60% (< 168 points) on labs		Course Project:	70 points
			Discussion Postings:	80 points
			Final Exam:	125 points
			Total:	1000 points

Course Organization: The online Astronomy class is organized by units and designed to allow students to cover the material at your own pace, but there are specific deadlines for each unit and the assignments for each unit must be submitted by the deadline. All the due dates are found in the calendar on Cobra.

Unit Based Lessons: Each unit includes lecture notes posted under the Content tab at the top of the class webpage in Cobra, a reading assignment from the text, one or two labs, an activity, and a quiz. Due dates for each assignment are listed under the title of the assignment and on the class calendar. You may work ahead on most of the unit assignments, but assignments must be submitted by the due date to be eligible for full credit.

Weekly Assignments: Weekly assignments include Lessons, Labs and Quizzes in the Unit folders, postings to the class Discussions and assignments for the Constellation Project. A brief outline of assignments is included in the syllabus. All details are in the folders for the specific assignments under the Content tab in Cobra. Labs are due on Wednesdays, discussion forums close on Sundays, and activities and quizzes close on every other Sunday. The details are in the folders for the specific assignments under the Content tab in Cobra.

Census Date Rosters, Withdrawals, and Midterm: Instructors are required to assess the participation of students in the second week of class, dropping any students who are not actively pursuing instruction. If you have not shown active participation in the class, you will be dropped with no refund of tuition and fees. After this census date, you should not plan on an instructor withdrawal if you want to withdraw from the course. You are ultimately responsible for your own withdrawal by the withdrawal date. Non-attendance after the census date will result in a failing grade if you don't withdraw yourself. To be kept on the class roster, you must complete the following assignments by the census date on the class calendar:

1. Pre-Course Assessment
2. Syllabus Quiz
3. Make 1 post
4. Lab 1: Stellarium Tutorial

To be kept on the midterm roster, you must have submitted the following assignments by the midterm date on the class calendar:

1. 6 Labs
2. 3 Quizzes
3. 3 Activities
4. 14 postings to the Weekly Discussions
5. Parts 1 and 2 of the Project

Study Groups: Students in on-campus classes have the opportunity to ask questions and discuss concepts with other students. Since this is an online class, you are encouraged to work with other students on assignments through the Open Question/Answer Discussion forum, email, by phone, or in person, but for all assignments submitted **all answers must be in your own words**, and each student must submit his/her own assignment.

Discussion Board Participation: Weekly discussions are an important part of the class, since you may not get a chance to meet me or your fellow students. Discussions are your chance to get to know me and your fellow students, and are intended to act as a virtual classroom. There are specific topics for the weekly discussions, but you can post to the Open Question / Answer Discussion forum to ask questions or comment on material in the lessons or current events in Astronomy.

Each week you are required to make at least **two** postings to the weekly discussion. Discussions are done weekly, rather than by Unit. Each discussion opens on Mondays and closes the following Sunday, so they're open for seven days. Discussion postings are 10% of your grade for the class, and are a relatively painless way to rack up a few points each week.

To access the discussion, you must make a post. You must also reply to at least one other person's post. Each posting is worth up to 3 points, but should be **at least three full sentences**. "I agree.", "I disagree.", "That's cool!" are fine as a comment, but don't count as a full credit posting. Write a few sentences about what you find interesting about the weekly topic, or why you agree or disagree with another posting. Parkland College supports diversity and civility. Please be sensitive in your posts to the discussion board. Inappropriate use of language (profanity, racism, sexism, etc.) is not acceptable and will not be tolerated.

The total score for Discussion Board participation is 80 points. This includes 6 points each week for posts to the weekly discussions (13 weeks x 6 points per week = 78 points), plus one additional post (2 points each) during the semester on any topic. You may also make up to 10 additional posts (2 points each) for a maximum of 20 points extra credit. You can make as many postings as you wish, but 20 points extra credit is the limit.

Labs: There are one or two labs assigned for each Unit with specific deadlines for each lab. You may turn labs in early, but all labs must be submitted by the deadline for that lab in order to be considered for full credit. Labs are available in downloadable formats. You should download the files, answer the questions, and then upload the completed lab files into the submissions box in the dropbox for that assignment.

Students must have at least 60% of the lab points in order to pass the course. Any labs submitted after the due date will get five points deducted. No labs will be accepted more than two weeks after the due date.

I encourage you to turn in labs early when possible. You will usually find it impossible to complete the labs if you wait until the day they are due to begin. Begin the labs early so you can let me know if you have questions. Students may work together on the labs, but you must turn in your own copy of the completed lab; no group labs are accepted. All answers to explanation questions (more than 3 or 4 words) must be written in your own words.

Quizzes: There are quizzes for the first seven Units of the class. Each quiz must be completed by the deadline for that unit. Quiz questions are a combination of multiple choice, essay, fill-in-the-blank, and matching questions. There is a 40 minute time limit for each quiz. Once you begin a quiz, you have 40 minutes to finish, so don't click the link to open the quiz until you are ready to begin. Since Cobra has time limits built into the system, you should log out of the system then log back in before you begin a quiz to make sure you have the full 40 minutes to complete the quiz.

Quizzes cover material from the posted Unit lessons, assigned reading from the text, the labs, and the activities. You may use any material at your disposal while working on the quizzes, but **you must write out answers in your own words.** Using text directly from the lecture notes, textbook, or any other source is plagiarism. *You are given two chances to take each of the seven unit quizzes. The higher of the two scores counts toward your final grade.*

Final Exam: The Final Exam for the class is cumulative and given in the same format as the quizzes, but much longer. You will have two hours to complete the Final Exam, and must be finished by 11:59 PM CDT on Thursday of finals week.

Activities: Each Unit also has an activity with a specific deadline. The activities are like mini-labs, which often give extra practice on some particular concept. As with labs, you can work ahead on Activities, but must submit them by the due date to be considered for full credit. Any activities submitted after the due date will have two points deducted. No activities will be accepted more than two weeks after the due date.

Constellation Project: A research project will be completed during the semester. The project is worth 70 points. The project involves studying the stars contained within a certain constellation. It will include analysis of the data you collect, a final written report, and a poster. Details of the project can be found on the [website](#).

Observing session: Stellarium is a wonderful tool, but nothing can compare to the real night sky. If at all possible, please plan to attend an observation. If you are unable to attend an observation, an online Alternate Observation is also available and is worth the same amount of credit. You will receive 60 points for simply attending the dark sky session, *but you will not receive any points until you submit a typed report about the session.* The report is worth 20 points, should contain at least 800 words, and must be turned in within one week of the observing session. The report should include a description of the observing conditions, a summary of what you did during the session, a description of each object observed, and a definition of each type of object observed (i.e. if you observe a planetary nebula, write a definition of a planetary nebula).

The observing session takes place at the CUAS Observatory, about 15 minutes' drive from Parkland. You will be required to sign up for the session you wish to attend. Dates and times for these observations will be provided in class and on Cobra. These are scheduled between the last quarter and new moon phases. See the [Observing Schedule](#) page for more information. All observing sessions are "weather permitting." Contact the hotline or me via text before coming to the session. Here are the driving directions: goo.gl/maps/9Sifd

Late Work: Late work will be accepted except where specified above. **No assignments other than the Final Exam will be accepted after 11:59 PM CDT on Sunday of the last week of class before finals.**

Extra Credit: There is a 50 point limit on extra credit earned. Several opportunities are listed below and on the [website](#).

Extra credit opportunities this semester:

[Saturday Physics for Everyone](#) lecture every other Saturday at 10:15 AM, check the schedule for astronomy topics

[World of Science](#) lecture first Friday of the month at 7:00 PM, check the schedule for astronomy topics

[Staerkel Planetarium](#) shows Fridays and Saturdays at 8:00 PM all semester

[Prairie Skies](#) shows at Staerkel Planetarium Fridays at 7:00 PM all semester

[Family Skywatch](#) at CUAS Observatory on Saturdays around the first quarter Moon at 19:30

Feel free to ask me about other potentially eligible events.

Software: For this online course you are expected to be able to use email, surf various websites, install software and download and upload files. If you have questions about this, please send me an email.

You must have consistent access to a reasonably reliable Internet connection.

You will need the following software:

1) As mentioned previously, you will use Stellarium. You may also use the software in the computer lab in the Parkland library.

2) Flash is used for some of the animations in the labs; a copy of the latest Flash player can be downloaded at the following [website](#).

There is a discussion thread for technical problems. Please post there and/or email me directly if you have any difficulties with software issues.

Tentative Schedule:

Week	Sections	Topics	Special Notes	Lab (due Wednesday)
9/8	1-1 – 1-4; 1-6; 1-11	Motion of the Sky	Pre-Course Assessment due (Tu); Syllabus Quiz due (Tu); Activity 1	Stellarium Tutorial
9/15	3-1 – 3-11	Telescopes	<i>Census date</i> (Mo); Unit 1 Quiz	Telescopes (We); Learning the Night Sky (Su)
9/22	2-1; 3-12 – 3-17	Scientific Method; Atoms and Spectra	Project part 1 due (Th); Activity 2	Scientific Method
9/29	3-12 – 3-17; 8-1 – 8-8	Spectra and the Sun	Unit 2 Quiz	Spectra
10/6	9-1 – 9-3	Stellar Classification	Project part 2 due (Th); Activity 3	Solar Observing
10/13	9-4 – 9-12; 10-1 – 10-8	HR Diagram; Star Formation	Unit 3 Quiz	Parallax and Proper Motion
10/20	10-9 – 10-15	Stellar Lifespans and Deaths	<i>Midterm</i> (We); Project part 3 due (Th); Activity 4	Properties of Stars
10/27	11-1 – 11-11	Supernovae	Unit 4 Quiz	Distance to the Pleiades
11/3	11-12 – 11-19	Black Holes	Project report due (Th); Activity 5	Ages of Star Clusters
11/10	12-1 – 12-7	The Milky Way	Unit 5 Quiz	Supernova: Death of a Star
11/17	12-8 – 12-18	Other Galaxies and Redshift	Alternate Observing due (Th); Activity 6; Unit 6 Quiz	Distances to Galaxies
11/24	12-8 – 12-18	Quasars; Active Galaxies	Activity 7	Elegant Universe
12/1	12-19 – 12-23	Big Bang Theory	Post-course Assessment due (Th); Unit 7 Quiz	Hubble Law
12/8			Final Exam due Thursday	