

**Physics 191**  
**Descriptive Astronomy**  
**Fall 2020**

Professor Chris Sorensen

Office: Cardwell 325A

Office hours: Open door... but I ain't there! Email: sor@phys.ksu.edu

Textbook: Investigating Astronomy: A Conceptual View of the Universe, 2<sup>nd</sup> edition, by T. F. Slater and R. A. Freedman.

The purpose of this course is to develop your awareness and understanding of the universe of which you are a sentient part. You will also use and learn the scientific method; you will “know how we know”.

**This class will be taught remotely (unfortunately) via zoom.**

<u>Week (Monday)</u>	<u>Subjects</u>	<u>Reading</u>	<u>Studio</u>
Aug. 17	Introduction, the night sky	Chapter 1	Motions in the Sky, Observation of a lunar month (~ one month)
Aug. 24	Motion, starlight	Chapter 2	Observations of Jupiter and Saturn (~ entire semester)
Aug. 31	Understanding motions	Chapter 3	Kepler's Laws
Sept. 7	The Earth	Chapter 4	Measuring the Earth
Sept. 14	Terrestrial planets	Chapters 4, 5	Predicting Eclipses
Sept. 21	<b>Exam I – Sept. 23</b>	Chapter 6	Angular Measurements
Sept. 28	Gas planets	Chapter 7	Measuring the Moon
Oct. 5	Life beyond Earth	Chapter 8	Parallax distance measurement
Oct. 12	The Sun	Chapter 9	Observing the Sun (~ one month)
Oct. 19	Stars, <b>Exam II – Oct. 14</b>	Chapter 10	Discovering the Nature of Stars
Oct. 26	Star life	Chapter 11	Observations of Mars (~ entire semester)
Nov. 2	Star death	Chapter 12	Measuring the Milky Way Galaxy
Nov 9	The Milky Way	Chapter 13	Studio make up
Nov. 16	<b>Exam III –Nov. 6, Galaxies</b>	Chapter 14	
Nov. 23	<b>Fall Break</b>		
Nov. 30	The Universe	Chapter 15	Measuring Galactic Distances and the Age of the Universe
<b>Dec 7th (Monday)</b>	<b>Final Exam 4:10-6:00pm</b>		

**Homework.** Homework will be assigned from problems at the end of the textbook chapters. You will work the problems on paper and hand in these written assignments on their specified due date. The assignments will be graded by a TA. Homework will be very useful for you to learn physics and how to communicate with writing. Many of the exam questions will be derived from the homework. Your final homework grade (a percentage) will be scaled to 150 points.

**Studios.** In studio you will learn to think like a scientist. You will learn how, through systematic, quantitative measurements, one can understand how the world works. It is important to read the studio description before you come to studio. The studio activities will be assessed by the record you keep in your studio book and a few observing programs. You will be taught how to keep an accurate and realistic lab book as well as how to make good scientific judgment for the activities. For your studio lab book you must use a standard quad-ruled, bound lab book which will be supplied to you by the physics department. Each studio is worth approximately 20 points and the total point value for the Studio will be scaled to 350 points (35% of your total semester grade). Every week the studio book will be graded. If you miss a studio for a valid reason, contact me, and we will arrange for you to do the studio make-up in the week of April 22.

**Exams.** There are 3 exams worth 100 points each. If you miss an exam for **any reason**, your score for that exam will be zero. The best 2 exams count towards the final grade. An exam can go on the road for a university activity. This must be prearranged before the original exam date and coordinated with a faculty representative or coach of the activity. The final exam is mandatory and will be comprehensive. It is worth 200 points. All these exams are multiple-choice, short answer and fill-in-the-blanks. There will be questions on the reading, homework problems and on class demonstrations.

**Final assessment.** Total points possible = homework (150) + studio (350) + best 2 hour exams (300) + final exam (200) = 1000.

The final letter grade for the semester will be based on a **percentage** of your total exams plus studio. The grading scale for the class is as follows:

- A:  $\geq 90\%$
- B: 80 to 90%
- C: 70 to 80%
- D: 60 to 70%
- F:  $< 60\%$

**Statement Regarding Academic Honesty.** Kansas State University has an Honor and Integrity System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor and Integrity System. The policies and procedures of the Honor and Integrity System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. A component vital to the Honor and Integrity System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

**Statement Regarding Students with Disabilities.** Students with disabilities who need classroom accommodations, access to technology, or information about emergency building/campus evacuation processes should contact the Student Access Center and their instructor. Services are available to students with a wide range of disabilities including, but not limited to, physical disabilities, medical conditions, learning disabilities, attention deficit disorder, depression, and anxiety. If you are a student enrolled in campus/online courses through the Manhattan or Olathe campuses, contact the Student Access Center at [accesscenter@k-state.edu](mailto:accesscenter@k-state.edu), 785-532-6441; for K-State Polytechnic campus, contact Julie Rowe, Diversity, Inclusion and Access Coordinator, at [jarowe@ksu.edu](mailto:jarowe@ksu.edu) or call 785-826-2971.

**Statement Defining Expectations for Classroom Conduct.** All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article V, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.

**Statement Regarding Wearing of Face Coverings.** To protect the health and safety of the K-State community, students, faculty, staff and visitors must wear face coverings over their mouths and noses while on K-State campuses in all hallways, public spaces, classrooms and other common areas of campus buildings, and when in offices or other work spaces or outdoor settings when 6-foot social distancing cannot be maintained. In addition, all students, faculty, and staff are required to take the COVID-19 and Face Mask Safety training. Employees who need reasonable accommodations and assistance related to required face coverings may contact the ADA coordinator at [charlott@k-state.edu](mailto:charlott@k-state.edu), and students needing accommodations may contact the Student Access Center at [accesscenter@k-state.edu](mailto:accesscenter@k-state.edu).

In classrooms, faculty have the right to deny a student entry into the room if the student is not wearing a face covering. Students not wearing a face covering will be reminded to do so and offered a clean face covering, if one is available. If the student does not comply, the faculty member will ask the student to leave the space, and if available, join the class remotely. As a last resort, campus police will be called. The faculty members will complete the Code

of Conduct form and the Office of Student Life will look further into the issue and take the non-compliance with the request to leave into consideration of further accountability measures.

At no point should the professor or other students put themselves into an unsafe situation while attempting to enforce the face-covering policy. Manhattan campus police: 785-532-6412

Copyright 2020 (Chris Sorensen) as to this syllabus and all lectures. During this course students are prohibited from selling notes to or being paid for taking notes by any person or commercial firm without the express written permission of the professor teaching this course. In addition, students in this class are not authorized to provide class notes or other class-related materials to any other person or entity, other than sharing them directly with another student taking the class for purposes of studying, without prior written permission from the professor teaching this course.