GENERAL COURSE INFORMATION

(from the Collin College Generic Course Syllabus)

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Course Number: PHYS-1417
Course Title: Physical Science II
Course Description:
Investigation of topics in physics, chemistry, geology, and meteorology in the context of a one-semester astronomy course. Topics will include: Celestial measurement of time, calendars, and seasons; geology and meteorology of the Earth, Moon, and planets; Chemistry and physics of stars and galaxies; and the interdisciplinary question of life beyond Earth. Laboratory exercises and night observations combine to enhance lecture material. Lab required.

Course Credit Hours: 4
Lecture Hours: 3
Lab Hours: 3

Prerequisite: Meet TSI standard for MATH 0310, and TSI college-readiness standard for Reading; or equivalent.

Student Learning Outcomes: Upon successful completion of this course, students should be able to do the following:

1. Explain celestial motions as related to the keeping of time and marking of the seasons
2. Explain the meaning of atomic and molecular spectra
3. Discuss the geological features of Earth and the other terrestrial planets (Critical Thinking and Communication Skills)
4. Discuss the meteorology of Earth and other planetary atmospheres in the solar system
5. Discuss the chemistry and physics of stellar energy and evolution
6. Explain the basic morphologies of galaxies
7. Discuss the science behind the search for life beyond Earth

Withdrawal Policy: See the current Collin Registration Guide for last day to withdraw.

Collin College Academic Policies: See the current Collin Student Handbook.

Americans with Disabilities Act Statement: Collin College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS office, SCC-D140 or 972.881.5898 (V/TTD: 972.881.5950) to arrange for appropriate accommodations. See the current Collin Student Handbook for additional information.

INSTRUCTOR PROVIDED COURSE INFORMATION

Instructor: Meade Brooks
Office Location: 213 Lawler Hall, Preston Ridge Campus
Office Hours: On-campus: Mon 12:00 - 1:00 pm, Wed 11:00 am - 12:00 pm
Online via Canvas: Tue/Thu 10:00 am - 12:00 pm
Office Phone Number: 972-377-1640 (do not leave voicemail, email me instead)
Email: Send ALL email to me through the course Canvas mail system, NOT my collin.edu email.

COURSE INFORMATION

Last Day to Withdraw from Course: TBA

Meeting Times/Location: This is an online course with no on-campus meetings.

Technology Requirements: This course uses a variety of online technologies. For detailed information on the minimum technology requirements for this course and other related information, visit the eCollin Learning Center at: **http://www.collin.edu/academics/ecollin/index.html (http://www.collin.edu/academics/ecollin/index.html)**

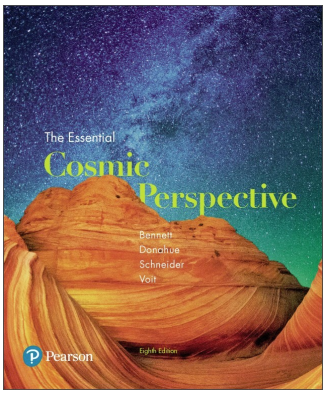
Minimum Student Skills: Students should have the attributes, skills and knowledge necessary for success in this online course including: self-motivation, good time-management skills, self-discipline, good reading comprehension, persistence, available time, ability to use a laptop, printer, software, and the Internet. Find out if you are ready to take an online course by completing the readiness assessment **SmarterMeasure (https://www.collin.edu/academics/ecollin/eLC_smartermeasure.html)** This is an important tool that helps determine your skills for taking an online course. From the SmarterMeasure assessment, you will discover information about your:

- Reading Speed and Comprehension
- Technical Competency and Knowledge
- Typing Speed and Accuracy
- Personal Attributes that relate to distance learning success

Netiquette Expectations: Sensitive discussion topics will be brought up in this class, so please think carefully before responding. Keep these guidelines in mind:

- Standards of courtesy and respect must be maintained at all times in our online “classroom.” Join in to the discussion, but remember that this is still a “classroom” setting and that respect and consideration are crucial for any intellectual discussion.
- Discussion areas are the place for intelligent and respectful airing of ideas. Name-calling and personal attacks are not permitted.
- Any violation of the standards of appropriate behavior online will be reported to the Dean of Students and appropriate disciplinary action will be taken by the college.
- A good rule of thumb is that you should never post a response online that you would not be willing to say in person. Once the course begins, please use your Canvas communication tools to contact Professor Brooks.

COURSE RESOURCES



Textbook: The Essential Cosmic Perspective, 8th Edition

Authors: Bennett, Donahue, Schneider, Voit

ISBN: 9780134602080

This online lecture makes use of several digital resources, and while available, a printed copy of the course textbook is not necessary. Pearson, the publisher, has made available a low-price digital textbook (eText) for this class packaged with MasteringAstronomy, the online assignment system we will use for homework and exams. Follow the directions on the **MasteringAstronomy and Textbook Access (https://collin.instructure.com/courses/832037/pages/masteringastronomy-and-textbook-access)** page to purchase these required course resources.

Wherever you purchase your textbook (whether printed or digital), be sure your purchase includes MasteringAstronomy! You will be unable to complete your chapter assignments or exams without access to MasteringAstronomy.

Supplies: You should have a scientific calculator and computer with internet access. A scientific calculator can perform functions such as scientific notation and order of operation and can be purchased for around $10. You will be performing several at-home lab activities which use common household items. You may find it necessary to purchase or borrow a few low cost items that you do not have.

COURSE COMPONENTS

Homework Problems: You will be given assignments by chapter in the MasteringAstronomy online assignment system.

Discussions: Questions have been developed for a variety of course topics. These discussions questions will cover a variety of interesting topics and current events – all students are expected to participate. Students must reply to each discussion question which are graded upon level of participation and thoughtfulness. Additionally, students must reply to at least 2 student postings on the topic.

Exams: Three major tests will be given. These will be completed in the MasteringAstronomy online assignment system. There is no traditional final exam for this course.

Lab: Students will participate in a variety of hands-on lab activities, several of which make use of direct observation of astronomical objects. A few of the labs utilize computer simulations. Students must choose at least 6 of the available lab activities and complete the corresponding worksheets.

Method of Evaluation: Course averages will be calculated as follows:

MasteringAstronomy HW	35%
Lab Activities	35%
Graded Discussions	15%
Exams (3)	15%
TOTAL	**100%**

Grades will be determined as follows:
90-100 = **A** 80-89 = **B** 70-79 = **C** 60-69 = **D** 0-59 = **F**

All class grades will be available through Canvas.

COURSE SCHEDULE

Week 1	Students access their course materials Chapter 1 - A Modern View of the Universe
Week 2	Chapter 2 - Discovering the Universe for Yourself Chapter 3 - The Science of Astronomy
Week 3	Chapter 4 - Making Sense of the Universe: Understanding Motion, Energy, and Gravity
Week 4	Chapter 5 - Light: The Cosmic Messenger
Week 5	Chapter 6 - Formation of the Solar System **Exam 1**, Chapters 1 – 6
Week 6	Chapter 7 - Earth and the Terrestrial Worlds
Week 7	Chapter 8 - Jovian Planet System
Week 8	Chapter 9 - Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits, and Impacts
Week 9	Chapter 10 - Other Planetary Systems: The New Science of Distant Worlds
Week 10	Chapter 11 - Our Star Chapter 12 - Surveying the Stars
Week 11	**Exam 2**, Chapters 7 – 12 Chapter 13 - Star Stuff

Week 12	Chapter 14 - The Bizarre Stellar Graveyard Chapter 15 - Our Galaxy
Week 13	Chapter 16 - A Universe of Galaxies
Week 14	Chapter 17 - The Birth of the Universe Chapter 18 - Dark Matter, Dark Energy, and the Fate of the Universe
Week 15	Chapter 19 - Life in the Universe
Week 16	**Exam 3**, Chapters 13 – 19