Physics is “the mystery of being”!

“We each exist for but a short time, and in that time explore but a small part of the whole universe. But humans are a curious species. We wonder, we seek answers. Living in this vast world that is by turns kind and cruel, and gazing at the immense heavens above, people have always asked a multitude of questions: How does the universe behave? What is the nature of reality? Where did all this come from? Did the universe need a creator? Most of us do not spend most of our time worrying about these questions, but almost all of us worry about them some of the time.

Why is there something rather than nothing?
Why do we exist?
Why this particular set of laws and not some other?”

- Steven Hawking

**Course Description:**
In this course we will study Newton’s laws of motion, Kepler’s laws of planetary motion, applications of spectroscopy and the Doppler effect in astronomy, celestial spheres and celestial coordinates, constellations, seasons, tides, eclipses, and the motion of the Earth, the moon, the
planets, and of minor bodies within the solar system. We will also cover the origin and evolution of the solar system. The laboratory will include outdoor viewing sessions, and labs both virtual and traditional on timekeeping, the use of spectra, the study of planets, and the motions of stars and galaxies.

**Course prerequisites:** One of the following must have been met:
1. Developmental Reading 0093 AND Developmental Writing 0093; or,
2. English as a Second Language (ESOL) 0044 AND 0054; or
3. Texas Success Initiative (TSI) Reading and Writing standards.

**Course procedure**
Lectures and assignments will be delivered to you in class and through eCampus (ecampus.dcccd.edu), which is DCCCD’s Blackboard portal. You do not need to be a computer whiz to be successful in this course. From a technological standpoint, absolutely everything is simple. By the time you review all the documents posted on eCampus, you’ll know almost everything you’ll need to be successful in this course. *(It is critical that you read and review all the folders under all the tabs on eCampus.)*

**How to login on ecampus.dcccd.edu:**
- Go to http://ecampus.dcccd.edu and click on “Access Courses”. If you are logging in for the first time, enter your student ID number with a lower case “e” in front of the number. This number is used as both the user name and the temporary password. Please change your password after your initial login.
  
  Example: user name: e3456789; password: e3456789.

  a) Use an updated browser

  b) Have all Javascript settings enabled in your browser

  • Tip: If one browser does not perform well, try another.

  c). Set your browser to accept all cookies.

  **NOTE**** Have Questions about the Recent Password Updates? Please visit dcccc.edu/password-update for guides and more information.

This is a web-based course, but I am easily accessible whenever help is required. My email address is: ssokhansanj@ dcccd.edu

In your email, make sure you **include your course number (i.e., 1404) and your full name in the subject box.**

**Please verify your ecampus email address to ensure that you receive my emails.**

You are required to check your email and announcement folder daily for any new information.
Course Material:

1) Reading Material:

Textbook for reading and background content: Please read carefully.

There is a *FREE textbook* available at https://openstax.org/details/books/astronomy

You can download the book in PDF format, or view it online free of charge. I have also posted the PDF file under the “Course Material” tab on eCampus.

You can also use any other introductory astronomy textbook (old or new edition) for your reading.

There are also course background contents provided under each unit. These educational materials have been reproduced from http://astro.unl.edu, funded by NSF.

*We will use lectures provided by* https://www.khanacademy.org/science/physics/cosmology-and-astronomy

*We will use miscellaneous videos and lectures from Youtube and other media whenever they are needed.*

2) You are required to purchase the access key for *Astronomy Today, 9th edition*, by Chaisson and McMillan.

![Textbook: Astronomy Today, 9th Edition
Author(s): Chaisson, Eric I; McMillan, Steve
Discipline(s): Astronomy
Textbook ISBN-13: 9780134516318](image)

There is a button on eCampus called Mastering Physics that takes you to the Mastering website and assignments. You will be able to purchase the access key on eCampus. You do NOT need an ID number for the class on Mastering anymore.

You will find a handout about how to obtain an access key when you click on the “Mastering physics” tab in eCampus.

2) **Homework assignments:** these will be posted on Mastering Astronomy. You can have 3 attempts for each question. You will be able to view your grades after your third submission. Your grade should be refreshed on eCampus. **Please do not worry if you see any discrepancies**
between the grades on eCampus and Mastering. They will be synchronized later on. You do not need to email me about this.

3) Lab Experiments will be posted in the Lab folder on eCampus. Virtual labs in the Lab folder have been reproduced from the University of Nebraska web site. You will read the lab instructions, use a simulation to perform the lab, and will then take the lab quiz in the lab folder. You can have 3 attempts for each question. You will be able to view your grade after you submit your lab quiz.

4) Project Assignment: You will write 2 to 3 pages about a topic (you will find about the topic in the project folder in one month). You will create a power point presentation, present your paper, record your presentation.

You will copy and paste your video presentation Link on your paper next to your name and also in the textbox of the folder on ecampus.

Core Objectives: I will assess all the core objectives through the assigned project.

Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Critical thinking skills - to include creative thinking, innovation, inquiry, and analysis, and the evaluation and synthesis of information.

Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual means.

Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

** Note that the emphasis for the Fall semester of 2017 is on teamwork.

Course Outline:
Units of Measurement and the Scale of the Universe
Sky, Earth, and Solar Motion
Planetary Motion: Newton's Laws and Kepler's Laws
Radiation (Black Body) and Spectroscopy
Telescopes
Terrestrial planets
Jovian Planets
Asteroids and Comets
The Formation of the Planetary System

Class introduction and making groups
Self-Introduction in Virtual Classroom: post your intro. + a 2 minutes video recording of your intro.

Making Groups: only groups of two and no more.

Sunday June 16

<table>
<thead>
<tr>
<th>Homework / Labs and Activities /quizzes</th>
<th>All Due dates by 11:59PM</th>
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<tbody>
<tr>
<td>Unit 1- Mathematics Review</td>
<td>Sunday June 16</td>
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<tr>
<td>Unit 2- Sky, Earth, and Solar Motion</td>
<td>Sunday June 16</td>
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<tr>
<td>Unit 3: Lunar Motion</td>
<td>Sunday June 16</td>
</tr>
<tr>
<td>Unit 4- Planetary Motion-Newton’s Laws and Kepler's Laws</td>
<td>Sunday June 16</td>
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<tr>
<td>Unit 5- Radiation( Black Body)–Spectroscopy and Telescope</td>
<td>Wednesday, July 03</td>
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<tr>
<td>Unit 6- Terrestrial planets-Planets Mercury, Venus, Earth, and Mars</td>
<td>Wednesday, July 03</td>
</tr>
<tr>
<td>Unit 7- Jovian Planets: Jupiter, Saturn, Neptune and Uranus</td>
<td>Wednesday, July 03</td>
</tr>
<tr>
<td>Unit 8: Asteroids and Comets -Solar system Formation</td>
<td>Wednesday, July 03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project</th>
<th>Report-video recording presentation</th>
<th>Sunday June, 30th,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Star Party Report</td>
<td>Report of the star gazing on MVC campus or OFF campus</td>
<td>Sunday June, 30th,</td>
</tr>
</tbody>
</table>

Course evaluation:
Homework 30%
Labs 30%
Star party 15% attendance 10% + Report %5
Project 20% Essay 10% + Power points 2% + video presentation 8%
Quiz 5%

**The instruction for each category is in the corresponding folder on ecampus**

Late Work Policy: late assignments will be penalized 10% per day, NO exceptions.

Please note that there will be absolutely No Late assignments after July 03.

Group work opportunity:
- Working on assignments is easier if you work in groups. **However, every person is required to submit her or his own work otherwise there will be no credit for the person who has not submitted the lab report.** You can make only groups of two.
- Please introduce yourself in the virtual classroom and add a photo of yourself.
- Email your classmates as many times as possible until you find a partner to work with. Do not give up easily!
• You are required to record a presentation for your project. It is recommended that you find someone with whom you can meet on the recording day. Otherwise you will need to work on your project individually.
• Each person is accountable. When one member of the group experiences a lack of cooperation from partner, she or he can work individually.

Virtual classroom: To help you find someone you would like to work with, please introduce yourself and please provide relevant contact information. You are required to add a link to a 2 minutes recording of your introduction. Please read the instruction in the virtual classroom folder on ecampus.

You can post this information under this "Introductions" forum by creating and editing your own threads. Please note that all communication and posts must follow proper academic classroom etiquette.

Your posts should include the following:

1- First and last name:

2- Email address:

3- Telephone (optional):

4- Major:

5- Any other information you would like to share with the instructor and classmates, such as your preferred time for working on assignments, etc.

6- Attach photo of yourself

Please complete these introductions by Friday jan25. These introductions will count towards your class attendance for financial aid purposes, and will also earn one homework grade only if you post your introduction by the due date.

Institutional Policies:

Please visit www.mountainviewcollege.edu/syllabipolicies for a complete list of institutional policies (Stop Before You Drop; Withdrawal Policy; Repeating a Course; Financial Aid; Academic Honesty; Americans with Disabilities Act Statement; Harassment, Discrimination and Sexual Misconduct, Religious Holidays; and Campus Emergency Operation Plan and Contingency Plan).